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11 July 1984

# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT



FOREIGN BROADCAST INFORMATION SERVICE

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11 July 1984

WORLDWIDE REPORT  
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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JAPANESE, WEST GERMANS ACCUSED OF DUMPING OPTIC FIBER CABLE

Copenhagen AKTUELT in Danish 20 May 84 p 5

[Article by Leif Hansen]

[Text] The Germans and the Japanese are manufacturing optic fiber cable which they are selling at double the price at home and half price abroad.

This makes for profits at home and competitive advantages abroad. But if the telephone companies absolutely have to buy the cheapest optic fiber cable, then it cannot avoid having an effect on Danish business.

That is the way the business world works, and no kind of international moral codes apply there.

The rules of the European Economic Community allow the various countries to choose between competitors without calling for bids, when they are buying equipment for telephone companies, railroads, electrical power plants or defense.

And so we cannot use bidding to compel the Japanese to buy our cheaper optic fiber cable.

But there are telephone companies in Denmark that will be buying cables for the new hybrid and wide-band systems.

We manufacture optic fiber cable here in Denmark at Nordic Cable and Filament Company [Nordiske Kabel og Trædfabrik]. Currently, there are only 35 employees working in the company's Copenhagen office. But that figure could rise into the hundreds if we could also find inroads abroad, where TV broadcasting is unprotected by regulations the way we have here in Denmark.

Nordic Cable and Filament has, therefore, informed the Copenhagen Telephone Company of these distasteful methods of competition used by the Germans and the Japanese. The company is of the opinion that a good system on the Danish market will generate good opportunities--and more Danish employment--by means of sales abroad, if we buy equipment for the new network on the domestic market.

Of the four Danish telephone companies, only the Copenhagen one has been approached by foreign manufacturers offering large equipment orders at low prices.

"It is true that we have had cordial contacts with the Copenhagen Telephone Company on this subject," said civil engineer Ib Gronvald of Nordic Cable and Filament. "But the matter has been worked out already, and I do not want to say any more on the subject. But we should have a good shot at selling to countries outside of Europe and Ireland, if we are allowed to manufacture cable for the Danish network," he added.

The Copenhagen Telephone Company refused to comment on the subject, but is said to have given Nordic Cable and Filament a friendly reception, despite the tempting offers from the Japanese and the Germans.

9584

CSO: 5500/2700

OPTICAL FIBER COMMUNICATIONS IN CHINA

Beijing RENMIN RIBAO in Chinese 5 Mar 84 p 3

[Article: "Optical Fiber Communications in China"]

[Text] About 1972, China began research on optical fiber communications. In 1976, China developed a low-loss, multimode optical fiber. In 1978, after the National Science Association decided to make optical fiber communications a key national research topic, China made rapid advances in the research and development of optical fibers, equipment and systems. After 1979, test circuits for optical fiber communications were laid in Shanghai, Beijing, Wuhan, Guilin and Nanjing. Some practical experience has been gained since these test circuits have been connected to the telephone network.

The 120-circuit shortwave, long-multimode urban optical cable relay system, which passed evaluation in Wuhan last year, is China's longest optical fiber communications functional system and is complete in terms of performance. This circuit crosses the Chang Jiang and the Han Shui to connect three Wuhan towns and is 13.3 km long. To test the use of optical fiber communications under different environments, a complex route was chosen for this system: some of the optical cable was placed on the Wuhan Chang Jiang bridge, which undergoes year-round vibration; some was placed on the same poles that carry the trackless trolley feeder line; and some was placed in the same conduits as the electric cable. Use shows that the quality of optical circuit voice communications is better than that of the original municipal telephone electric cable relay circuits. Comprehensive testing and evaluation proved that this system conforms to the design demands in terms of technical standards and that performance is very stable. Beginning this year, this system will gradually be extended to use in some of China's major cities. A 480-circuit longwave, long-multimode optical fiber communications system early this year connected the Wuhan municipal telecommunications network for formal test use. These results show that China has basically mastered the primary technology of the overall design of optical fiber communications, multimode optical fiber cable, photoelectric equipment, photoelectric terminals, measuring instruments and engineering design and construction. The development of long-distance dry-line optical fiber communications is now underway.

However, China's optical fiber communications technology is still far from the levels of the advanced foreign countries. Optical fiber communications is a

knowledge-intensive industry: developing optical fiber communications does not require large factory buildings nor large amounts of labor but depends mainly on knowledge and technical breakthroughs. China already has over 10 units engaged in optical fiber and optical fiber communications research, and if they can exploit the superiority of the socialist system, organize relevant departments and units to cooperate vigorously, concentrate the use of limited manpower, materiel and finances and work in coordination, we can quickly break through these technologically weak links and try to catch up with foreign advanced levels.

8226

CSO: 5500/4189

URBAN MODERNIZATION OF POSTS, TELECOMMUNICATIONS

Beijing RENMIN RIBAO in Chinese 4 Mar 84 p 5

[Article: "Posts and Telecommunications and Urban Modernization"]

[Text] Cities are the political, economic, cultural and educational and scientific and technical centers of nations and regions and play a decisive role in national construction. Flexible and rapid information transmission is an important sign of a modernized city. Doing a good job of building these important basic facilities of information transmission can greatly improve productivity and the level of management; when information feedback is prompt, it can make important production and administrative policy making more practical and reliable; if an information system is developed, it can spur work in such areas as scientific research and culture and education and can save greatly on energy and reduce traffic congestion so that city life is more orderly. It can be said that the progress of information technology is an important link in social progress.

For this reason, all countries in the world today, whether developed countries or developing countries, are vigorously planning the development of their information systems, accelerating the modernization of the means of communications and surpassing the previous development of communications at speeds one to several times faster than that of industrial development. In the U.S. now, there are on the average 84 telephones for every 100 persons and in Japan there are on the average 76 telephones for every 100 households. From 1976 to 1980 France invested 120 billion francs (4 percent of the total national investment) in developing communications so that the rate of the spread of the telephone increased from 16.1 percent in 1969 to 45.8 percent. The development of communications and the flexibility and accessibility of information brings with it great economic benefits. Japan is spreading the saying: "Information is the life of the enterprise."

From 1949 to 1982 China's gross value of industrial production increased 46-fold, but the number of telephones in the cities increased only 5.2-fold, and of that, in cities above the provincial capital level it increased only 1.1-fold, in such large cities as Beijing, Tianjin, and Shanghai there are on the average only 3-5 telephones for every 100 people. There are over 300,000 customers in cities nationwide waiting for telephones to be installed. Some units have been unable to get telephones installed for a long time and must

assign special persons and vehicles for transmitting information. This situation cannot be suited to the needs of the four modernizations.

To improve the backward state of our urban communications we should first of all broaden the sources of funds. Communications equipment is costly precision equipment and requires the expenditure of more money. One km of medium coaxial cable requires an investment of several tens of thousands of yuan, and one municipal switchboard costs 2,000-3,000 yuan. For this reason it is not enough just to rely on the state to increase investment, it is necessary to broaden the channels and raise funds in many areas and, while accelerating the construction of a national communications network, actively support the construction of special communications facilities and encourage relevant departments jointly to carry out communications construction.

Second, communications construction should be made part of urban planning and construction design. For a long time now there has been no concept of information, and communications construction was unable to be part of construction design and urban planning, even to the point that when some highrise residential buildings in the cities were being built, no provisions were made for communications conduits, no telephone wiring was built into the walls, no mailboxes were installed in tall buildings and no addresses for Posts and Telecommunications Bureau use were anticipated. It was not until these residences were occupied that the lack of postal and telephone facilities was felt. For this reason, urban communications construction should be carried out at the same time as residential construction. The demands of modernized urban communications should be taken into full account in urban construction, and there should be a norm for the rate of urban telephone distribution and a demand for a rational distribution and service range for posts and telecommunications service network outlets. Preparing the infrastructure for a construction project should include posts and telecommunications.

Finally, there should be vigorous support and help from society. The busier the districts of major cities, the tighter the communications and the more difficult it will be to procure the land and demolition and construction services. Communications construction should be accelerated and, in addition to the postal and telecommunications departments adopting as much new technological equipment and vigorously striving for as little dislocation as possible, it is necessary that leadership agencies at all levels and all departments vigorously support and help communications departments resolve the problems that are hard for them to resolve.

SUBSCRIBER TELEGRAPH SERVICE IN CHINA DISCUSSED

Beijing DIANXIN JISHU [TELECOMMUNICATION TECHNOLOGY] in Chinese No 3,  
1984 pp 1-2

[Article by Gao Xingzhong {7559 2502 1813}: "Problems in China's Development of Subscriber Telegraph Service"]

[Text] Subscriber telegraph is a high-efficiency, low-cost and straightforward method of recorded communication. It plays an important role in telecommunication (especially in international telegraph).

China established its international subscriber telegraph service between Beijing and Moscow in as early as 1959, with only a few subscribers at the time. Later, 100 manual telegraph exchange units were first installed in Beijing. In 1979, 100 distribution controlled semi-electronic subscriber telegraph exchanges were installed. In 1982 and 1983, program controlled subscriber telegraph exchanges were opened in Shanghai and in Beijing. The business of subscriber telegraph service developed rapidly in recent years and with prominent economic benefits. Up to the present time China has imported and Chinese-made program controlled subscriber telegraph exchanges, a number of 140-line automatic exchanges and 100 manual exchanges. Exchanges were installed in a dozen or so cities and some of them also provided long distance service. But all this fell far short of satisfying needs, so that greater efforts must be devoted to the development of subscriber telegraph service.

The worldwide subscriber telegraph network has been in existence for more than 50 years. There are basically two types: the first is an overlap of the international network and the domestic network. The two networks are not connected except at the international inlet and outlet ports for the domestic subscriber to get on the international network. The United States and Japan have this type of network. The other type of network (such as those in West German, France and Britain) combines the construction of the international and domestic networks. The TLX (subscriber's telegraph network) and the TWX (low speed data network) in the United States combine the subscriber network and the low speed data network. The former uses the international wide 50 band 5 bit international code No 2 and the latter uses the American special 110 band 8 bit ASCII code. Because the two networks have different rates, communication between them requires an electronic code converter and there will be a time delay in real time communication.

In China, the three-in-one system combines the international subscriber telegraph network, domestic subscriber telegraph network and the low speed data network (50 band ARQ circuit and 300 band data system). The CCITT has different technical requirements for the subscriber telegraph service and the low speed data service in terms of regulations, designations, signals, code type, speed and control mode. The direct communication between them therefore is complicated. For example, in order to be compatible with the low speed data network, the exchanges must have "transparent" transmission capability. On the other hand, the subscriber telegraph service would like to adopt a signal regeneration mode (i.e., a nontransparent transmission mode) to meet the needs of correcting the accumulated signal changes in multiple random switching. As a result, great complexities arise when the two modes are handled by the same exchange.

For the purpose of building China's subscriber telegraph network into a high quality, high efficiency, reliable economical and convenient communication network, we propose the following preliminary suggestions:

1. The network structure of the subscriber telegraph should be as simple as possible and more direct high efficiency circuits should be built.

Since the international service is a major portion of China's present subscriber telegraph service, the international service should be connected directly to the international entry and exit stations to improve the efficiency. In the short term it is desirable to have two-stage exchanges at the center of regions or provinces and more centralizers and multiplexers should be installed. The overall trend in the United States and in West Germany, where the subscriber's telegraph services are most developed, is for management of the communication network to become more and more centralized and the number of exchange stages to steadily dwindle. This is favorable for the reduction of operating staff, and technical service and accounting are centrally processed, but it also places higher demand on the performance of the exchange.

2. Signal regeneration exchanges should be installed at the regional centers and international in-out stations.

Since the number of switching in the subscriber telegraph is usually high (as many as 7 in a three-stage exchange) and has a degree of randomness, the transmission should not be entirely transparent considering the wide territorial span of China and the fact that exposed lines still play an important role. Exchanges with signal regeneration capability should be installed at large regional centers and at international entry and exit stations to reduce the accumulation of signal degradation and to improve the overall communication quality. In order to conserve designation resources, the exchange capacity should be standardized to 100, 1000 (or 500) and 2000 lines. For large regional centers, 1000-2000-line exchanges should be used, otherwise the capacity will become inadequate before too long. One hundred small capacity exchanges should be placed in provincial centers and other cities.

3. Time division multiplexing (TDM) transmission equipment should be actively developed.

While developing the TDM equipment, model FDM-24 frequency division multiplexing equipment should also be developed to replace the current wide use of FDM-16 equipment and to reduce the transmission costs. This development is of key importance to subscriber telegraph service. Such equipment can not only be used in long distance telegraph service but also in telegraph service within the city to alleviate the shortage of relay lines in some regions.

Since the TDM may run 46, 92 and 184 telegraphs at the rate of 2400, 4800 and 9600 bps respectively on one circuit and has the capability for signal regeneration, it improves the circuit quality and the multiple use factor, reduces the costs and promotes the development of subscriber telegraph service. In international communications in particular, it cuts down the high rental costs of satellite and cable circuits and facilitates the transition toward the digital network.

4. Actively develop subscribers' centralized equipment.

Remote terminal centralizers of 20, 100, 200 and 500 line capacity may be installed in cities, harbors, mines and hotels, offices and enterprises in the cities where the subscribers are concentrated. There are two ways to use the centralizers. In one method remote terminal modems are connected to program controlled exchanges. For example, the NEDIX-510A exchange uses two pairs of real lines or a 4-wire circuit to transmit 4800 bps of data (including 86 50-band circuits) to serve 480 subscribers capable of about 0.13 (?Irelands) [ai-er-lan 1947 1422 5695] each. In the other method a group of relay lines is connected to the exchange which may be program controlled or distribution controlled. For example, a centralizer serving 100 subscribers may use 20 lines in a fashion similar to a small telephone exchange so that a small number of lines may serve more customers.

5. Electronic teletypes should be widely promoted and used.

The terminal facility of the subscriber telegraph service is still the weakest link. We hope that the industrial department can provide reliable, efficient, low cost, multi-functioned and low noise electronic teletype and in the meantime allow the subscribers to have their own teletypes, but the interface should be standardized. This is one of the experiences gained by the United States in their development of the subscriber telegraph.

6. Fully utilize the number designation.

Today the telegraph stations in China all use the 5-digit number system. In the rapidly growing cities, a 6-digit number should be adopted at an early date to satisfy the needs and to maintain the stability and continuity of the number designation.

7. Subscriber telegraph network should communicate with other networks for integrated utilization.

In recent years many foreign telegraph companies have combined telegraph and data communication networks via specially designed interfaces and the customers found it very convenient. The ITT company in the U.S. connected its subscriber telegraph network with the storage transfer information network, the automatic switching network, the general data exchange network and the rental private line exchange network and provided access to various data banks and communication with various user terminals using different code and speed for the overall integrated utilization. For example, subscribers in Beijing may enter the two largest data exchange networks in the U.S., the Tymnet and the Telenet, via the ITT network to obtain data and information. We should therefore consider the connection with other networks in developing China's subscriber telegraph network. Specifically, when a certain network is being developed, connection with the subscriber telegraph network should be taken into consideration. For example, if an automatic switching network is to be built at a certain location, the automatic interface with subscriber telegraph network should be considered. The interface of private rental line and subscriber telegraph should also be considered. In short, present and future connections should be taken into account.

8. Development and utilization of new technology and new services.

The application of electronic computers, especially microprocessors, to subscriber telegraph exchange is on the rise and provides excellent opportunities for new services and new capabilities. Since the emergence of the programmed subscriber telegraph exchange in the mid 1960's, more than 50 new services and techniques have been adopted in the field of subscriber telegraph, including the report of time, the display of date, contracted dialing, direct call, multi-site call and storage transfer.

9698

CS0: 5500/4187

## THAILAND

### BRIEFS

AXE PHONE EXCHANGES FROM ERICSSON--The Thai Telecommunications Authority TOT has ordered additional telephone exchanges of the AXE type from Ericsson. The value of the order is 460 million kronor. The order includes exchanges for 28 Thai municipalities. The equipment will be manufactured in Sweden and deliveries are scheduled to start in 1985. The AXE system has been sold altogether to 50 countries. In Thailand the first AXE exchange was put into operation in March of this year. [Text] [Stockholm DAGENS NYHETER in Swedish 25 Jun 84 p 9]

CSO: 5500/2723

## VIETNAM

### VO NGUYEN GIAP ATTENDS SATELLITE SYSTEM TEST

OW221704 Hanoi VNA in English 1604 GMT 22 Jun 84

[Text] Hanoi VNA June 22 -- The Moscow-Orbit-Hanoi Telecommunications System (Teledostup) started its trial operation in Hanoi this afternoon under the sponsorship of the Central Institute for Scientific and Technical Information of the State Commission for Science and Technology.

The test is being conducted in the framework of the International Centre for Scientific and Technical Information (I.C.S.T.I.)'s program of helping Vietnam build and develop its national system of scientific and technical information in the 1981-85 period.

The test is aimed at establishing a permanent system of telecommunication from data bases of I.C.S.T.I. through satellite communication system Moscow-Orbit-Hanoi. In this work Vietnam is benefitting by the collaboration of the I.C.S.T.I., the All-Union Institute for Applied Automation systems (I.A.A.S.), the U.S.S.R. Ministry of Post and the Vietnamese General Post Office.

Present at this afternoon's trial operation were Vo Nguyen Giap, vice-chairman of the Council of Ministers; Dang Huu, chairman of the State Commission for Science and Technology; Nguyen Nhu Kim, director of the Central Institute for Scientific and Technical Information under the State Commission for Science and Technology. The scientific and technical counsellor of the Soviet Embassy in Hanoi and experts from the I.C.S.T.I. and the I.A.A.A. were also present.

Speaking at the opening ceremony, Vice-Chairman Vo Nguyen Giap warmly welcomed the test and expressed sincere thanks to the above-said international and Soviet centres for their wholehearted assistance to Vietnam in building and developing its national system of scientific and technical information.

CSO: 5500/4391

## CONFERENCE HELD FOR WORLD TELECOMMUNICATIONS YEAR

## Chairman Reports

OW011638 Hanoi VNA in English 1508 GMT 1 Jun 84

[Excerpt] Hanoi VNA June 1--The World Communications Year 1983 (W.C.Y.) in Vietnam has been quite a success, said Pham Nien, general director of the General Post Office, chairman of the Vietnam Committee for World Communications Year at a conference held here May 30. Truong Chinh, president of the State Council, member of the honorary committee for the World Communications Year, was among those present at the closing ceremony of W.C.Y. Also present was Mathew Kahane, UN representative, head of the UNDP mission to Hanoi.

Addressing the conference, President Truong Chinh highly valued the results of the activities in the W.C.Y. and called for greater efforts of Vietnamese communications workers to better meet the needs of the nation.

In his reviewing report, Pham Nien said that soon after its formation in late 1982 by decision of the Council of Ministers, the Vietnam W.C.Y. committee set forth a program of action and set up subcommittees in all provinces to coordinate their activities. It held a national symposium on communications with the participation of more than 30 ministries and services, held a photo exhibition and sent six delegations and several albums to regional and international symposiums and conferences.

The committee also directed the construction of communications and postal projects, such as the Danang-Ho Chi Minh City technical communication sector, the improvement of the "Lotus" satellite communication ground station (in the north), the building of the Hanoi-Quang Ninh cable line, the restoration and expansion of the microwave relay stations in the southern provinces, preparations for the construction of the Hanoi-Vinh coaxial cable line, the addition of 800 kilometres of the central post line and the inauguration of the maritime postal lines from Haiphong to Roslok, Hong Kong, and Tokyo. Besides, he continued, research work had begun on a scheme for nationwide telecommunications and a postal network, a communications system for the Mekong Delta, etc. Necessary steps have been completed for the building of projects funded by the United Nations of other international organizations such as the communications school, the pan-national transmission project.

With the assistance of the Soviet Union, the report added, Vietnam had started the building of a cable and microwave communications station and the

semiautomation of long-distance telephone. New telex and telephone lines to Cuba were opened and the postal cooperation with Laos and Kampuchea had also been strengthened, the report noted.

Aside from the state-run projects, 357 communications joint projects built jointly by the government and people have been finished in 38 provinces throughout Vietnam.

#### Truong Chinh at Satellite Station

BK021139 Hanoi Domestic Service in Vietnamese 2300 GMT 1 Jun 84

[Text] On 30 May the cadres and workers of the Lotus satellite ground communications station, a project built with Soviet assistance, had the honor of welcoming Comrade Truong Chinh, member of the party Central Committee Political Bureau and chairman of the Council of State, who visited them on the occasion of the closing ceremony of the World Communications Year in Vietnam.

Chairman Truong Chinh commended the station for its achievements scored over the past period and earnestly urged its cadres and workers to constantly struggle to surge forward. Assisted by Soviet experts, they must strive to grasp more firmly their technical specialty, increase their labor output, better serve the communications task, and contribute to improving the people's material and cultural life. The comrade chief of the station and the comrade head of a Soviet expert team guided the chairman on a tour of various working areas of the station.

On the same day, the chairman of the Council of State visited and addressed the delegates of the post and telegraph sector and the representatives of various sectors and public organs at the central and local levels attending a conference held to review Vietnam's activities under the World Communications Year.

At the conference, Comrade Pham Nien read a report reviewing specific activities in Vietnam under the World Communications Year, underscoring successes achieved in propaganda work, and highly appraising the position and effect of communications on the socioeconomic sector and on the people's lives. The comrade said: During a short period of time, nearly 500 projects have been built at both the central and local levels in response to the World Communications Year, thus contributing to increase the material and technical bases of communications, and radio and television broadcasting in the entire country, and expanding by another important step the relations of international cooperation in communications. Though being regarded as just initial steps, the abovementioned achievements serve as a fundamental and favorable precedent for the vigorous growth of communications work in our country at present and in the long run.

On behalf of the party Central Committee, the Council of State, and the Council of Ministers, Chairman Truong Chinh warmly cited the many achievements scored by the post and telegraph sector and other related sectors during the World Communications Year. The chairman hoped that all the cadres and office and

manual workers would continue to develop their strong points, correct their shortcomings, strive to participate in the socialist emulation movement, increase their labor output, contribute to improving the people's material and cultural life, strive to be always worthy of the trust of the party and the state and the love of the compatriots.

On behalf of those attending the conference, Comrade Pham Nien, chairman of the Vietnam Committee for World Communications Year and director of the Post Office General Department, expressed his pleasure to welcome Chairman Truong Chinh's visit, regarding this as a great honor for communications workers and as a manifestation of the solicitous care given by the party Central Committee and the state to the post and telegraph sector. The comrade pledged to scrupulously implement all the instructions given by the chairman to the sector. As an immediate task, the sector will strive to overcome all shortcomings and promote strong points in ensuring better post and telegraphic services to the cause of national construction and defense as well as to the people's lives.

#### Truong Chinh Speaks

OW051101 Hanoi Domestic Service in Vietnamese 1100 GMT 2 Jun 84

["Text" of address by Chairman Truong Chinh of the SRV Council of State at the 30 May Hanoi conference to review activities during World Communications Year in Vietnam--read by announcer]

[Text] Dear comrades, dear international guests, Vietnam's activities during World Communications Year [WCY] have yielded good results, and met the set basic requirements. I am glad to be here today, at this conference, to review the results of your activities, and I warmly acclaim your new achievements.

During WCY, propaganda work, in diversified forms, was carried out comprehensively and actively. As a result, our party echelons, administrative authorities, and people have comprehended more deeply the role and position of communications work in our economic and cultural construction and development, and in the service of man. Also, during that period, the material and technical bases for our postal service [PS] were further consolidated and strengthened. Within a short time, some 357 projects and 87 model and advanced post offices were built. This reveals the positive effect of WCY activities. Noteworthy is the fact that local budgets have worthily contributed to building infrastructural establishments. With a capital amounting to nearly 23 million dong, contributed by various localities, the PS built its projects during WCY. The party's motto: "The state and the people work together; the center and localities work together" has been proved entirely correct.

These achievements were also due to the positive contributions, and close coordination, of the concerned services, including planning, communications and transportation, foreign affairs, scientific and technological, cultural, and radio and television; the VIETNAM NEWS AGENCY; and the Armed Forces' information services. The achievements scored in WCY in Vietnam were also due to our country's coordination with a number of world countries. They have not only exerted an immediate impact, but have also created a premise for the PS to secure conditions to expand and develop further.

On behalf of the party Central Committee, the Council of State, and the Council of Ministers, I warmly acclaim the achievements of the PS and other concerned services during WCY. I hope that you, comrades, will continue to develop strong points, remedy shortcomings, actively participate in the socialist emulation drive to increase labor productivity, and contribute to improving the people's material and cultural conditions.

This morning, I visited the Lotus satellite communication ground station, which had been presented by the Soviet party and people to our people. It is a major project, and a significant, valuable present marking Vietnamese-Soviet friendship. On behalf of our party, our state, and our people, I express our gratitude to the party, the state, and the people of the fraternal Soviet Union, and our warm thanks for the wholehearted assistance by Soviet experts, who have worked intensively to put the project promptly into operation, and who have contributed greatly to training a contingent of cadres and workers for Vietnam's PS, enabling them to promptly master modern science and technology and properly manage, and effectively use, the project.

Dear comrades, our country's PS is endowed with a long-standing revolutionary tradition. During the years of resistance against French colonialism and U.S. imperialism, as well as in the current struggle to build and protect the fatherland, our PS has proved to be worthy of the confidence of the party and the people. Implementing the resolutions of the fourth and fifth party congresses, our PS has made remarkable strides in building its material and technical bases. The communications network has been gradually modernized to effectively serve economic and cultural construction, and the consolidation of national defense. We are proud of these great efforts by our PS's cadres, workers, and employees.

You comrades must properly carry out the following practical tasks:

1. Ensure and improve the quality of communications work; transmit letters and telegrams rapidly, accurately, and safely; ensure the safe and proper handling of the people's parcels and mail. Our PS's cadres and employees must show a polite, courteous attitude as cultured persons toward customers.
2. Make full use, and protect, all the PS's material and technical bases; rationally use and improve techniques; and further increase communications capability, and the quality and effectiveness of services. In doing so, the PS will contribute to safeguarding the nation's independence, freedom and happiness; to developing the people's collective mastery; to building a new type of socialist man; and to implementing the two strategic tasks of building socialism and defending the socialist fatherland.

Regarding customers, the PS must, apart from serving the leading organs of the party and the state, mass organizations, and the economic, cultural and social services, better serve the ordinary people, and give special care to the combatants of the People's Armed Forces.

Dear comrades, our people's revolutionary work has achieved great success. However, we still face many difficulties in our advance. Our PS's cadres,

workers, and employees should continue to develop past results, with the determination to fulfill the 1984 state plan, and to properly discharge all tasks assigned to them by the party and the state. You should always remain worthy of the confidence of the party and the state, and of the love of our compatriots. I wish you good health, enthusiasm, and steady progress.

CSO: 5500/4390

## BRIEFS

ANTI-SRV RADIO STATIONS--Addressing the 21 June morning session of the UN Information Committee, Vietnam's representative condemned the imperialist and other reactionary international forces for using communications to carry on propaganda work and defend their interventionist, aggressive, and subversive activities against other countries as explicitly evidenced by the setting up of radio station Jose Marti to oppose Cuba and other radio stations in areas near the Indochina peninsula to oppose Vietnam. He urged the committee to draft regulations and principles for wholesome information activities; build and endorse peace, national independence, democracy, and social progress; and put an end to all misuse of communications for hostile purposes against sovereign states. [Text] [OW260855 Hanoi Domestic Service in Vietnamese 1100 GMT 25 Jun 84]

CSO: 5500/4391

## NEW RADIO YUGOSLAVIA CENTER SEEN AS PRIORITY TASK

LD290424 Belgrade TANJUG Domestic Service in Serbo-Croatian 1131 GMT 28 Jun 84

[Text] Belgrade, 28 Jun, (TANJUG)--The construction of the Radio Yugoslavia broadcasting center is a priority task on which the realization of the role of this important factor in the Yugoslav system of information for abroad depends. In 1986 in Geneva an international conference on short wave planning will take place which will carry out the allocation of radio frequencies according to facilities already installed for broadcasting programs. For this reason the members of the SAWPY Federal Conference Council for the press, radio and television today adopted the construction of the broadcasting center as a priority task in the overall program for the development of Radio Yugoslavia from 1981 to 1990, to which full support was given at this meeting.

The decision on priorities within the program is inevitable, it was said at the meeting, because of the overall economic stabilization. Other sections of the development program, the committee members stressed, will have to await better times.

The immediate reason for the session of the committee was the draft law on changes and amendments to the law on establishing the total amount of funds for the construction and modernization of the technical basis of Radio Yugoslavia up until 1990.

The broadcasting center of Radio Yugoslavia is being built in Bijeljina, but because of lack of funds, work has come to a halt. Meanwhile, on the basis of agreement given by the Federal Executive Council, Radio Yugoslavia has imported equipment worth \$12 million which is lying in an unsuitable warehouse awaiting the completion of construction work.

The members of the committee agreed to propose to the Presidium of the SAWPY Federal Conference that it supports the changes in the existing law and that it asks the SFRY Assembly to adopt it as soon as possible.

The Federal Secretariats for Finance and Information were asked to put forward proposals to the SFRY Assembly Budget Committee for the regulation of Radio Yugoslavia's existing debts.

CSO: 5300/3013

# INTERNATIONAL AIRPORT INSTALLS MODERN TELEPHONE SYSTEM

Santa Cruz EL MUNDO in Spanish 27 May 84 p 9

[Text] The Automatic Telephone Cooperative (COTAS) has put into service at Viru-Viru airport a complete telephone system, which has an exchange with a capacity of up to 1,000 telephone lines.

The opening ceremony, held yesterday at the facilities of the country's most modern air terminal, was attended by the minister of transport and communications, Hernando Poppe Martinez, who, upon releasing that system for public service, made direct contact with the Government Palace, to talk with the president of the republic.

The telephone system, initially opened with 200 lines, will make it possible to meet all the internal requirements of the airport as well as the area included in the vicinity of that terminal for aircraft.

The telephone exchange has a system for telephony, telex and facsimile, 40 pay phone sets and others that will meet our population's expectations.

During the opening ceremony, the chairman of the Board of Administration of COTAS, Ltd, Luis del Rio Chavez, stated that the company which he heads has once again fulfilled its pledge to the people of Bolivia and Santa Cruz.

Despite the adversities confronted by COTAS in opening this modern communications system, he claimed that, with the aid of the Japanese firms NEC and OKI, it was possible to install this radio-based system, which will avoid the laying of cables and the installation of poles.

The strikes, work stoppages, variations in the Bolivian peso and other factors prevented COTAS from opening the plant on 20 April, as had been scheduled. Nevertheless, he added, "We have attained our goal and today COTAS has the largest airport structure in the country and in South America, owing to its geographical location, with one of the most modern telephone systems that exist in this area at present."

The chief of the Decentralized Unity of AASANA [Auxiliary Air Navigation Services Administration]-Viru-Viru, engineer Carlos Cuellar Landivar, for his

part, in a lengthy address, recalled the conditions under which the airport construction had been carried out, claiming that the work proved possible thanks to the cooperation of the Japanese Government, through a loan granted to our country involving an investment of about \$120 million.

The airport, with a runway 3,500 meters long and 45 meters wide, with 7.5 meters of shoulder on the side, in addition to a taxiway 2,500 meters long, will make it possible to operate all types of aircraft, with the ability to move 2.5 million passengers per year. He said that it is provided with modern equipment that will guarantee air navigation under optimal conditions, as well as the operations involving approach, landing and takeoff of planes.

Cuellar Landivar subsequently stated that Viru-Viru has a modern satellite meteorological system which, through an inter-institutional agreement, will serve not only air navigation but agriculture as well. He claimed that the passengers will be able to enjoy comfort in the buildings, because they will be equipped with air conditioning, piped-in music, electronic information, automatic fire alarms, and large, comfortable rooms with pullman seating. He remarked: "Now, with the starting of the equipment delivered by COTAS, we shall be able to communicate immediately with all of Bolivia and with other countries."

While offering a detailed report on the airport's potential, he said that it has a mechanical stairway, 35 rest rooms, duty-free shops, first class restaurants and two snack bars; adding that, within a short time, it would have four boarding bridges and firefighting cars with the most advanced technology.

The parking platform has a capacity for 13 airplanes, with sheds for national and international freight, and plans call for a large parking area for cars, buses and taxis.

He maintained that the Viru-Viru international airport would open in 44 days.

2909

CSO: 5500/2046

## OBJECTIVES OF RURAL TELECOMMUNICATIONS NETWORK SYSTEM OUTLINED

La Paz PRESENCIA in Spanish 28 May 84 p 3

[Text] The director of rural telecommunications, Rene Osorio, has charged the theft of communications equipment, which has caused an interruption in service for remote settlements.

He noted that these robberies are occurring in DITER's [Rural Telecommunications Directorate] regional entities in the border zones, particularly in the case of Puerto Suarez. He claimed that these incidents, in addition to causing DITER serious economic damage, are depriving customers of the use of the communications.

In view of the serious situation caused for the country's border areas, DITER has requested the cooperation of the state security agencies to establish and identify the perpetrators of these thefts, so as to subject them to the jurisdiction of the common courts.

### Telephony by July

The Rural Telecommunications Directorate has reported that, in July, the telephony service will start operating in the upper valley of Cochabamba. Rene Osorio said that the system would benefit the localities of Punata, Arani, Villa Rivero, Cliza and other farming communities. The cost of the project will be estimated by the Undersecretariat of Communications, once the prices of input in effect on the local market have been determined.

### Communications System

The undersecretary for communications, Adalid de la Torre, told the press that, in fulfillment of the policy outlined by the government, the national integrated telecommunications services system would be implemented, as an essential part of the basic infrastructure for national integration.

He noted that this service would make it possible to hasten socioeconomic development and would bolster the country's geopolitical security. He claimed that the objectives of this system are to establish a means of national

security to safeguard our sovereignty and the linking of all the border settlements and areas with the urban centers. It will also seek to raise the level of regional and territorial physical coordination and integration. Adalid de la Torre said that the national communications system would have modern technology, so that it may expand the interconnection with new national and international systems at low costs.

The undersecretary remarked that, to carry out this project, the sector's institution would be strengthened and restructured organizationally, administratively and operationally; and the centralization of plans and programs would be coordinated and made compatible, through planning, so as to make complete use of the human resources.

In conclusion, he said that the backing for this program would come under the National Telecommunications Fund, so that it might become an economically sound entity, capable of carrying on the activities involved in telecommunications development.

2909

CSO: 5500/2046

## CONGRESS TO VOTE ON BILL ESTABLISHING INFORMATICS POLICY

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 20 May 84 p 42

[Text] Before the year ends, the congress will vote on the draft law proposed by the government establishing a national informatics policy, and it will provide for compulsory protection of our domestic industry in this sector, Edson Dytz, the special informatics secretary, has announced. He commented that, with the security and stability provided by the existence of a law, Brazilian informatics will experience great qualitative and financial impetus, because it will be able to count on the support of strong domestic economic groups. He also predicted that, with the legislation, there will be less government intervention in the sector.

According to Edson Dytz, the government draft law will not require reserving the market for the domestic computer industry, but will make it clear that the truly Brazilian producer will have to be protected by means of norms which will be promulgated by a higher informatics council. This council will be made up of representatives of the various segments involved the sector, which fact, added to the social will which the congress has evidenced, will provide support for the policy of reserving the market, making a change in its direction very difficult, Dytz emphasized. The informatics secretary stressed that in order for the sector policy to change, it will be necessary to see evidence of a specific political will on the part of parliamentarians, who, along with the council, will also be targets for the external and internal pressure now being focused almost exclusively on the SEI [Special Informatics Secretariat].

Edson Dytz stressed that the SEI does not oppose competition among the domestic enterprises, since such industrial competition is a factor which leads to improvements for the country as a whole. For this competition to exist, the activities of the government in this sector will be reduced substantially, after legislation is promulgated under the sponsorship of the National Congress. The Informatics Technology Center in Campinas, which is currently affiliated with the SEI, will be converted later this year into a foundation, the work of which in the research and development sector will be passed on to our domestic industries.

The special informatics secretary further stressed the programs for social use of informatics, which will cease by the end of this year to be experiments and will be put into practice. These programs call for the use of computers in agriculture (Agrocom), carrying informatics resources to small

rural producers; in the health sector (Micromed), contributing to the control of endemic diseases and the provision of public health services to the people; and in the educational sector (Educom), in which connection the use of computers in the first and second grades of the public schools is planned. Also projects involving the use of informatics in the management of micro, small and average enterprises and in the court system will be carried out.

Edson Dytz emphasized the importance of the programs for "democratizing informatics," and he noted that discussion has been confined to computers as business equipment, since to date its use has been within the business sector. What will be needed is the transfer to society of the gains the country has achieved through its policy, which is designed to establish our own informatics technology, the secretary said.

#### Joint Ventures

The special informatics secretary criticized the proposals urging the establishment of joint venture companies involving Brazilian and foreign enterprises, as a way of speeding up domestic development in this sector. Dytz stressed that these associations would hardly be likely to result in a real transfer of technology to the country, and this would in the end hinder the consolidation of its genuinely domestic industry. There is no reason to create joint venture companies, according to Dytz, because they represent a clear effort to get around reserving the market. He noted that it makes no sense to put an infant industrial sector, like that in Brazil, in competition with the multinational enterprises which already have decades of experience in the sector, apart from being real economic powers.

Edson Dytz commented that protectionism with regard to advanced technology is increasing such that even in the United States, government intervention in the coordination, orientation and even supervision of activities and generalization in this sector is increasing rapidly. According to the informatics secretary, "laws are passed invoking national security to establish what can or cannot be passed on, allowing the executive branch to safeguard strategic advantages and protect what it deems to be the legitimate interests of American enterprises established on foreign territories."

5157

CSO: 5500/2048

## SETUBAL DEFENDS MARKET RESERVE POLICY FOR INFORMATICS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 8 Jun 84 p 24

[Text] Brasilia--Yesterday businessman Olavo Setubal, president of the Itau Bank, defended the maintenance of the policy of reserving the market for the informatics industry, and he criticized the establishment of joint venture companies in certain segments in the sector, noting that affiliation with foreign enterprises might make our domestic industries mere subsidiaries of international groups. Setubal engaged in a debate on reserving the market and joint venture companies before the informatics subcommission in the Chamber, with Senator Robert Campos (PSD [Social Democratic Party], Mato Grosso), who termed the businessman's proposal a "technological barnyard."

Olavo Setubal stressed that the thesis defended by Campos, calling for association in joint venture companies and condemning reservation of the market, can be regarded as an excellent economic model, but not as one for the transfer of technology. According to Setubal, however much management capability our domestic business sector may have, this could not guarantee its technological independence, since these businesses would become subsidiaries in international competition and the domestic informatics market would become a miniature of the world model. Setubal explained that if the Brazilian informatics market were made up of joint venture companies, there would be domestic competition only among the foreign partners, and would in the end push domestic businessmen out of this activity. Setubal gave the example of the domestic industries which are producing equipment today which is protected by reserve provisions and which would be snuffed out if forced to compete with the multinational concerns. He urged the maintenance of free market sectors in which foreign enterprises can function, such as in the large computer line.

Setubal voiced some reservations as to the method of establishing a reserved market, comparing protection to a "very powerful medicine which nonetheless has great side effects and risks." He stressed that the PDS should "take this medicine, but without exceeding the dosage." He regards the attitude adopted by the Special Informatics Secretariat (SEI), which today controls the import of components used in practically all sectors of our domestic industry, as dangerous.

Olavo Setubal urged the establishment of a commission patterned on the Security Commission to guide the national informatics policy. He condemned the creation of collegial councils meeting from time to time, simply approving and never discussing decisions. The informatics commission, in Setubal's view, should function on an integral basis, and its members will have terms of office and should enjoy autonomy in making their decisions. The SEI should cease to exist, giving way to another body to executive the informatics policy.

Olavo Setubal criticized the excessive intervention of the government in business activity, recalling that quite frequently in the country laboratories, research centers and foundations are established and then for lack of resources, end up by offering their products on the market and thus competing with private business. He stated that the law which will establish the national informatics policy should leave the responsibility for production to private enterprise and should encourage the universities in the research field.

Senator Roberto Campos also condemned the government rule in the informatics industry, stating that Brazil is the eighth largest Western economy and, in many production sectors, occupies a leading position, because there is not great state intervention in these sectors. He gave as an example the steel production sector, which ranks about eighth on the world market, as compared with the informatics industry, which ranks 20th, due to government intervention. Olavo Setubal admitted that the Brazilian microcomputer industry is about 4 years behind that in the United States, but he noted that the aeronautics industry in the country never concerned itself with producing Boeings, but did, on the other hand, manufacture small planes with optimal technological performance.

Robert Campos compared the Brazilian informatics industry with that in countries such as Taiwan, Hong Kong, Korea and Singapore, which in his view pursue more positive policies in this sector, since they allow multinational companies to function on their domestic markets. Setubal challenged the senator, stating that Brazil wants to build a truly domestic informatics industry, with technological independence included. The Asiatic countries, Setubal said, are more concerned about being major export centers and creating wealth through the multinational enterprises.

#### Free Zone

Olavo Setubal also suggested the establishment of one or two free bases for the production of computers for export, as a way of allowing the country to share in the economic potential of the foreign market, giving rise to jobs and foreign exchange. This free base, according to Setubal, should be established in the Northeast, where it would serve as a pole for industrial expansion and the perfecting of human resources, thus leading to its material emancipation as a region. The president of the Itau Bank cited as an example India, which has succeeded in maintaining an independent technological development policy, while at the same time establishing free informatics equipment production zones. This would be a way of attracting foreign investments to the sector, he commented.

Olavo Setubal stated that technology is not only the key to growth and prosperity, but also a threat to the cultural independence and the social structure of the developing nations, and for this reason, Brazil cannot seek second-class industrialization, just as it cannot allow itself to become a mere consumer of technology developed by completely different countries.

# SPECIAL ANTENNA CAPTURES IMAGE DIRECTLY FROM INTELSAT

Rio de Janeiro JORNAL DO BRASIL in Portuguese 28 May 84 p 13

[Article by Luis Henrique Romagnoli]

[Text] Sao Paulo--After a hard day of work on the building of a dam in the interior of Peru, Brazilian laborers can watch live telecasts from Brazilian transmitters thousands of kilometers away from the nearest relay station. This is possible thanks to an antenna and transmitter system--videosat--which captures images direct from the Intelsat satellite, and retransmits them through the EMBRATEL [Brazilian Telecommunications Company] via a closed circuit.

This equipment, which currently costs 18 million cruzeiros and is manufactured by Andrew Antennas in Sorocaba, 90 kilometers from the capital of Sao Paulo, cannot however be purchased by private individuals. Only legal entities, such as prefectures, foundations or civil companies, can use this special antenna, being required to have the authorization of the EMBRATEL, DENTEL [National Telecommunications Department] and the broadcasting facilities using the satellite (Global Network or Bandeirantes Network). Those who violate these rules may be charged with the crime of interfering with telecommunications.

## Piracy

The law also prohibits use for receiving foreign programs. Technically, it is possible to get live reception at home of television images from the United States, Portugal or Venezuela. There are recorded instances of clandestine use, but both the EMBRATEL and the DENTEL lack accurate statistics on pirate usage, which is generally to be found in the Amazon region or the lowlands of Mato Grosso.

The general manager of Andrew Antennas, Ricardo Apra, reports that in 2 years of production, more than 100 sets of equipment have already been sold. They include a parabolic antenna approximately 4 meters in diameter, a low noise amplifier and cables for installation in the transmitter. The clients include tens of prefectures of small cities in the interior of the country and building firms, and even the PETROBRAS [Brazilian Petroleum Corporation] is now contemplating installation of the apparatus on its undersea platforms.

The operation of the equipment is simple. After it is installed by technicians from Andrew and oriented toward the satellite, it is sealed, since no

handling is needed. "To date we have not had a single request for maintenance or repair work," Ricardo Apra insists.

The head of the SU-3 Commercial Regional Division of the EMBRATAL, Paulo Roberto Bergamasco, explained that in foreign countries, piracy has been combatted by means of a relatively easy method using a coding mechanism or scrambler. It interferes with the signal, making it meaningless to anyone without the decoding equipment containing the key to the code, which is only provided to legitimate customers. "In the United States, this system is much used. It has not become necessary in Brazil, but this may happen shortly. This is because Brasil-Sat, the Brazilian satellite, will be in operation by the middle of next year, and as its signal will be stronger than the Intelsat signal, adaptation by potential clandestine users will be easier."

The superintendent of the DENTEL in Sao Paulo, Marcelo Aparecido Coutinho da Silva, says that those interested in maintaining secondary transmission systems (using the satellite) will have no difficulty in obtaining authorization from the federal body. Apart from the requirements, a monthly rate must be paid to the EMBRTEL in order to get the signal. The amount varies depending on the size of the city, but as the majority of those applying for the service are small, the rate comes to about 307,000 cruzeiros per month.

5157

CSO: 5500/2048

## BRIEFS

NEW HOLGUIN TELEVISION CENTERS—Two modern television centers will soon open in the places known as Miraflores and La Peninsula de Ramon in the municipalities of Moa and Antilla in Holguin Province. They will improve reception of signals in these areas. Jose Hidalgo, national director of radio communications has reported that this year and in 1985, the country would acquire 43 modern pieces of radio transmitting equipment from Czechoslovakia and that 36 more smaller pieces of radio transmitting equipment would be built in the Telecommunications Central Laboratory to improve television signals in the country's more remote place. [Text] [FL141346 Havana Television Service in Spanish 1248 GMT 14 Jun 84]

CSO: 5500/2049

## TV TRANSMISSION SERVICES OF JCS DESCRIBED

Tel Aviv NEWSVIEW in English No 21, 29 May 84 pp 14-15

[Article by Simon Griver: "Delivering the News"]

[Text]

On the ground floor of Jerusalem's Binyanei Ha'ooma conference-hall complex, the Americans are being fed their breakfast, the Europeans are receiving lunch and the Japanese are having dinner dished up.

This not another breakthrough in Israeli agricultural technology. Rather, the world's television stations are picking up part of their daily diet of news broadcasts via satellite from the offices of Jerusalem Capital Studios. Space-age technology abounds in this glamorous nerve center as anxious engineers bustle hurriedly through the corridors and tense technicians push switches to make screen images magically flicker and authoritative voices resound. One more deadline successfully met.

An estimated 80 percent of the television newscasts beamed out of Israel are handled by JCS, earning the company \$1.5 million in export sales during 1983. To utilize better the studio services, 14 major networks from America and Europe have located their offices within the JCS complex. These include the American Broadcasting Corporation, the Columbia Broadcasting System and the Canadian Broadcasting

Network from North America, and TV companies from Great Britain, France, West Germany, Sweden and Canada. In addition, JCS regularly serves reporters from Australia, Japan and Italy.

The actual material transmitted out of JCS is not necessarily appreciated in this country. Israelis often feel that media coverage of the Middle East is slanted at best, and at worst, anti-Semitic. But JCS General Manager Shmuel Shiloh, who spent 35 years in the civil service (his 18 years in the Foreign Ministry included a stint as consul in Los Angeles) is not the type to be drawn into undiplomatic statements.

"I have my own opinions about the fairness and accuracy of some of these broadcasts," says Shiloh. "But they are not relevant. The function of JCS is to provide technical services for its clients, and not to interfere with the content of their transmissions. Of course, if news programs about Israel are tough to swallow, it is often because the news is unpleasant."

JCS offers its customers what Shiloh describes as an A to Z of television services. These include office space, telephones, telexes, cameras, editing

rooms and satellite feeds, as well as JCS' two most prized possessions — a digital standards convertor which converts from the European to the American transmission system and vice versa, and a machine which converts TV film to video. These two latter pieces of equipment cost a total of \$500,000. (In 1981, ABC borrowed the standards convertor to take to England in order to beam the royal wedding between Prince Charles and Lady Diana Spencer live to America.)

In all, some \$5 million have been invested in JCS. The owner of this high-finance venture is Leon Tamman, the British business magnate who also owns interests in television companies in England and Africa. Tamman's expensive enterprise has been paying handsome dividends in recent years, following a shaky start. Exports of \$265,000 in 1979 quadrupled to more than \$1,000,000 in 1981, and climbed to \$1.5 million in both 1982 and 1983.

The 1981 elections and the raid on the Iraqi nuclear plant, the war in Lebanon and continuing strife there, unrest in the administered territories and economic crises have all been "good news" for JCS as their facilities have stayed in demand. The 1983 report of the Kahan Commission on the Sabra and Shatilla massacres broke JCS records: the studios were required to provide 17 satellite linkups in one day. The coming elections in July will also ensure plenty of business for JCS, which operates with a staff of 45.

JCS also produces a daily television news broadcast, for transmission in English to one of Israel's neighboring countries. And the company has recently become involved in other broadcasting projects, such as the live transmission of a speech by the Lubavitcher Rabbi to his faithful in Israel, and preaching by the Moral Majority pastors to their adherents all over the world.

While bad news has generally been good news for JCS, the company intends, nevertheless, to guarantee its own economic future. Toward this end, JCS has recently diversified and entered into the production of feature films and documentaries. The company's reasoning: while there are many sensational

and dramatic events happening in Israel of a negative kind, there are as many, if not more, positive phenomena to capture the world's imagination. Says JCS deputy general manager, Gabi Rosenberg, "By initiating our own production department, we have taken our fate into our own hands."

"I would estimate that JCS's activities and endeavors are now divided evenly between providing facilities for news transmissions and producing our own films," says Florence Pavaux, the director of public relations at JCS. Pavaux, a recent immigrant from France, where she was private secretary to President Francois Mitterrand, had the opportunity to help in one of JCS' first documentary productions, a profile of her former boss.

Last year, in association with a French company, JCS produced a 50-minute documentary about windsurfing in Israel. The film was called *Vagabond Surfers*. JCS is currently producing three feature films. The first and most lavish film, entitled *Drifting Cities*, is being made in association with Greek and French television stations. It tells the story of characters living in Jerusalem, Cairo and Alexandria during World War Two. The other two productions are Israeli films in Hebrew called *Atalia* and *A Very Narrow Bridge*.

The driving force behind JCS movie enterprises is 35-year-old production executive Omri Maron. Jerusalem-born Maron has already carved himself an international reputation as a leading young movie impresario. He has 78 productions to his credit, including an ABC special on Perry Como, and the film *Sahara*. His joining JCS one year ago surprised many people.

"I wanted to stay in Israel and contribute as much as possible to Israeli society," explains Maron. "And with the backing that JCS could offer me and the team spirit and expertise of the people here, I felt that this was the place where I could give most."

Maron is bursting with ideas and potential projects, but is not prepared to reveal too many details about those which are closest to fruition. Maron does say that contracts are about to be

signed with Italian and Yugoslavian television stations for the coproduction of a feature film set at the turn of the century. Maron also desires to make documentaries about people, places and the history of Israel.

"For me, Jerusalem is the center of the world," says the effervescent Maron. "And we have so much to offer the movie world: dramatic and diverse topography and seasoned experts in all fields."

In coming years, JCS expects to apply its expertise to the country's anticipated second television channel. Shmuel Shiloh anticipates that sometime next year the government will give the green light for a second channel in Israel, and it will take a further year before transmissions are on the air.

The second channel is almost certain to be a commercial enterprise on the British model. Since Tamman already possesses extensive experience with English television stations, it is more than likely that part, if not all, of the second channel will be entrusted to JCS.

Major expansion is thus assured for JCS in the next few years. The company recently opened a suite of offices in Tel Aviv, and hopes to construct new headquarters in Jerusalem when a suitable site becomes available.

CSO: 5500/4514

DONORS PLEDGE \$59 MILLION AT UNTACDA CONFERENCE

Projects Not Yet Funded

Harare THE HERALD in English 7 Jun 84 p 3

[Text] THIRTY-FOUR African countries have managed to secure 36 percent of about US\$393 million needed to finance 88 projects designed to improve broadcasting on the continent, the executive secretary of the Economic Commission for Africa (ECA), Professor Adabayo Adedeji, said yesterday.

Speaking at the end of a three-day UNTACDA technical consultative meeting on broadcasting held in Harare, Prof Adedeji said the total amount of funds which donors had declared was likely to be available if member states concerned take the necessary initiatives.

The money amounted to US\$59,697 million.

"This is 16.19 percent of the total resources required for financing the broadcasting programme of the second phase of the United Nations Transport and Communications Decade in Africa."

"About 36 percent of funds required to implement all the 88 projects can now be said to have been either locally earmarked by member countries or secured from external sources."

He said the ECA would continue its efforts to ensure that the balance of the resources required was obtained.

It was imperative that through broadcasting, African governments reached "the mass of their people", communicated with them and provided them with education and information. Africa should be assisted in ensuring that it reaped the full benefit from the information and telecommunications revolution.

He appealed to the international community to "have a second look" at the projects that had not yet been funded. These 88 projects were only a small fraction of Africa's need in the communication sector.

All the projects had been categorised under five groups: rehabilitation and maintenance; training, technical assistance; regional and national. Only two

of these groups--technical and regional projects--did not attract interest from donors.

Some donors like France, West Germany and Belgium said they would be prepared to discuss further, on a bilateral basis, a number of the projects presented if the African member states concerned would approach them "through normal channels".

Of the 34 African countries under this programme, 25 attended the meeting.

Zimbabwe presented two projects under the training category. The ZBC required \$600 000 to provide middle management and technical training for staff. The project had already obtained some assistance from Britain and West Germany.

The other project was to strengthen the Zimbabwe Institute of Mass Communications. The estimated cost of the project was \$2,2 million.

#### Zimbabwe's Shamuyarira Speaks

Harare THE HERALD in English 7 Jun 84 p 3

[Text] RADIO broadcasters must try to reach the people with programmes on liberation and the continuing struggle for economic independence in Africa, the Minister of Information, Posts and Telecommunications, Dr Nathan Shamuyarira, said in Harare yesterday.

Speaking at the closing session of the UNTACDA three-day technical consultative meeting on broadcasting, organised by the Economic Commission for Africa, Cde Shamuyarira said any meaningful development must be aimed at transforming and improving the rural areas where most of the people lived.

"This can be done by bringing the radio into the village. The radio can assist in bringing new ideas and new modes of thinking to any village.

"When broadcasters have brought the radio into the village, those who produce programmes must endeavour to reach that village with the right message--the continuing struggle for economic independence and against neo-colonialist dependence," he said.

The radio should teach people that cultures of former colonial masters would not bring them happiness. Communication was basic to other factors of development.

Cde Shamuyarira said there should be an increase of intra-African trade if the African countries were to manufacture communications equipment for each other.

Africa expected closer co-operation between the developing countries and the developed ones in the field of communications. He hoped donor agencies and

financial institutions represented at the meeting would have "a second look" at some of the 88 broadcasting projects which had not attracted external financial assistance.

He also said it was important that African governments co-operated "in such a way that regional training centres are established to enable personnel to be trained at all levels".

Cde Shamuyarira said Zimbabwe needed to expand its communications infrastructure so that it could reach all its people with its policy.

CSO: 5500/85

ITALY FINANCES TELECOMMUNICATIONS DEVELOPMENT

Beira DIARIO DE MOCAMBIQUE in Portuguese 18 May 84 p 1

[Text] Italy has just confirmed its participation in the project for a national telecommunications network. It will provide \$55 million of financing (approximately 2.2 billion escudos), according to a report from the Mozambican Ministry of Posts and Telecommunications received in our office.

According to the same source, this financing will be used for switching, broadcasting, local networks, training and management of the projects.

The project will be developed in the provinces of Nampula, Gaza and Maputo, and will involve overhauling, modernization and expansion of the country's telephone system, particularly in the cities of Nacala, Nampula, Xai-Xai, Chokwe and Maputo.

When this project is completed, the telephone network in the People's Republic of Mozambique will be doubled, and connections with the cities referred to will be automatized.

The Italian firm selected as the principal contractor is ITALCOM, a consortium of three of the main firms in the tele-communications sector--ITALTEL, GTE and TELETRA--which will be working with Mozambican engineering firms.

9805

CSO: 5500/79

BRIEFS

DPRK COOPERATION--Mozambique and the Democratic People's Republic of Korea signed an intergovernmental agreement yesterday in Maputo, for bilateral cooperation in the area of posts and telecommunications. The document was signed for Mozambique by the Minister of Posts and Telecommunications, Rui Lousa, and for the DPRK by the extraordinary and plenipotenciary ambassador from that country to Maputo, Kang Su Miong. [Text] [Beira DIARIO DE MOCAMBIQUE in Portuguese 23 May 84 p 16] 9805

CSO: 5500/79

STUDENTS URGED TO PARTICIPATE IN TELECOMMUNICATIONS DEVELOPMENT

Kaduna NEW NIGERIAN in English 16 May 84 p 9

[Text] The Permanent Secretary, Ministry of Education, Kaduna, Malam Musa Abdullahi, said on Monday Nigeria still has a long way to go in telecommunication development.

He said this while declaring open a pre-world telecommunications day celebration open in Kaduna, at the P & T Headquarters.

He said Nigeria needed the support and interest of youth in developing its telecommunication system, adding that the purpose of the lecture organised by the Telecommunications Department for students in Kaduna State as part of the World Telecommunications Day which comes up tomorrow was to expose the students to the possibilities available in the various facets of telecommunication.

He advised students to ask questions that would enlighten them on the operations of the departments.

Among the organisations represented were the Nigerian Ports Authority (NPA), the Federal Radio Corporation of Nigeria (FRCN), the Post and Telecommunications and the Nigerian External Telecommunications (NET).

The permanent secretary observed that if the students developed interest in telecommunications system, they would do a lot of service to Nigeria by filling the necessary posts and doing the job with greater dedication.

He believed ample opportunities exist for the students in the department.

In the lecture on behalf of the National Committee on World Telecommunications Day, Malam Isma'ila Mohammed, enumerated the opportunities available in the Nigerian telecommunication system as well as other telecommunication departments.

The lecture titled "Career opportunities in telecommunication," Malam Isma'ila said the Post and Telecommunications Department had two schools in Oshodi and Kano for training in telecommunication, adding that non-staff of the P & T were also being admitted for the courses.

CSO: 5500/74

## BRIEFS

ANTI-APARTHEID UN RADIO--Mbabane--The Swaziland principal secretary of the Ministry of Internal Affairs, Mr Vusi Mamba, has hailed the recent accords and strengthening of relations between Swaziland and South Africa and other neighbouring states as a welcome first step in the right direction. Mr Mamba was replying to a question in an interview yesterday in Mbabane whether the recent accords would in any way affect the future of the UN Radio anti-apartheid programme which is transmitted daily by the Swazi government radio station, SBS. The programme, which has been transmitted daily since the mid 1970's, contains highly critical commentary of South Africa's domestic policies. Mr Mamba said although Swaziland, a neighbour and a friend of South Africa, it was still an independent, sovereign non-racial country and had never altered its views or policies regarding the problem of apartheid. He said as a friendly neighbour "Swaziland should, in fairness to South Africa and the whole region, be free to openly and honestly criticise what it sees as wrong and harmful behaviour and to support peaceful efforts to bring about the desired change."--SAPA [Text] [Johannesburg THE CITIZEN in English 16 May 84 p 9]

CSO: 5500/77

## IZVESTIYA ON LUXEMBOURG'S CHOICE OF TV SATELLITE

Moscow TASS in English 1916 GMT 18 Jun 84

[Text] Moscow June 18 TASS -- Luxembourg will use an American communications satellite for direct television broadcasting purposes, and IZVESTIYA's correspondent in Paris Yuriy Kovalenko said in his paper today that the news has been described as "a stab in the back" in France.

The agreement to use the American satellite cancels an earlier reached accord that Luxembourg will employ the French satellite TDF-1, planned to be launched in November next year, for the purpose.

Luxembourg's backpedalling first of all has put a question mark over the entire TDF-1 program since two of its three channels were intended to service the Grand Duchy. But the main danger lies in the fact, the IZVESTIYA correspondent said, that the 16-channel American satellite will give the U.S. a possibility of flooding Western Europe with American television fare, including commercials. The 16 programs will fill the West Europeans' TV screens, which, first, will pose a threat to local television and, second, will promote overseas "values" to the detriment of the national cultures of West European countries.

Why has Luxembourg preferred the American satellite to the French one? The main reason is the pressure which was exerted on the small country from overseas, the correspondent said. Standing behind Mr Whitehead, president of the contractor firm which is also a government official in his post of director of the U.S. board for communications policy, are powerful forces, including the Time-Life publishing concern, bank Solomon Brothers and others. Besides, a number of West European concerns, Italian, West German and British ones, which are closely connected with overseas monopolies and which in their turn hope to derive some profit for themselves out of the deal, were also interested in the Americans' victory.

The Paris-based press warned that Europe and America are standing on the threshold of a veritable "satellite war" which may have far-reaching effects, Yuriy Kovalenko said.

CSO: 5500/1022

EUROPEAN RESPONSE TO AMERICAN/LUXEMBOURG SATELLITE TV 'THREAT'

Coronet Direct TV Program

Paris LES ECHOS in French 28 May 84 p 6

[Article by Valerie Lecasble: "The American-Luxembourg TV Satellite Agreement Is a Threat to Europe"]

[Text] You cannot make head or tails of it. Nearly all of France thought that the Luxembourgers' negotiations with the Americans on a national satellite project were just a way of exerting pressure to obtain--among other things--lower prices for the use of the French-German TDF-1 satellite on board of which CLT [Luxembourg Television Company] is to embark, but late last week Mr Pierre Werner, head of the Luxembourg government, did indeed authorize the Coronet Company to operate its TV satellite.

This company, which is now being created, will receive the state franchise to use the direct TV frequency of the Luxembourg satellite company formed by the Luxembourg Savings Bank, the National Credit and Investment Bank, a pension fund and, of course, Clay Whitehead, the American promoter of the project.

The U.S.-made satellite offered by Mr Whitehead is more modern and lighter than the heavy TDF-1 satellite; it includes 16 channels that could cover most of Europe.

The announcement was made the very day after Francois Mitterrand's decidedly European speech in Strasbourg, and came as a bombshell in the European audiovisual world.

For France, it is a slap in the face. Andre Rousselet, president of Havas and a major CLT shareholder, went so far as to hint that CLT could be re-organized as a company operating under French law. When a joint French-Luxembourg communique was published concerning the joint operation of TDF-1, Georges Fillioud [secretary of state for communications] had also restated his conviction that these two projects were not compatible.

This conviction is now being challenged by the Luxembourg government, which is pointing out that Coronet will not broadcast any program in French.

## A Questionable Attitude

They are playing on words. If the Coronet project--and all the powerful financial interests that are backing it--is indeed brought to completion, Europe as a whole will be invaded by American programs. And it is well known that for the past 6 months Clay Whitehead has gone to great lengths to get a frequency in the European audiovisual space.

Luxembourg was an ideal target because, alone, it could not develop its satellite. But it could just as well have been Monaco.

For the Europeans, this is a real threat. So much so that, in a communiqué published on 18 May, Eutelsat (European organization for the operation of communication satellites) warned against the Luxembourg project, as "it could not fail to do a lot of harm." But, for the Luxembourg government, the battle is not yet over.

Indeed, it must still obtain the authorization of the International Telecommunications Union, an organization in which European Post and Telecommunications administrations are extremely influential. And the odds are that they will not be inclined to leniency.

Because the attitude of the Grand Duchy is, to say the least, questionable.

Why did they go so far along with France if Mr Pierre Werner knew that an essential clause--giving up the Coronet project--would not be complied with?

Why did they, in an official communiqué, agree to operate two channels and why did they then decide to use only one?

Obviously, during all the negotiations, the Luxembourgers were backing both horses.

And there is a considerable discrepancy between the positions of the CLT and that of the government itself, which is now demonstrating its independence from the (mostly French) CLT shareholders.

All the same, the result may well be a general outcry in Europe. Until the European elections, at which time Mr Pierre Werner is due to resign his position, he will have a hard time persuading and obtaining the authorizations he still needs. Unless, after that ultimate bluff, a last-minute solution is found.

## Franco-German Response

Paris LES ECHOS in French 30 May 84 p 3

[Article by Valerie Lecasble: "U.S. TV-Satellite Threat: The Franco-German Retort"]

[Text] "There is no room in Europe for hundreds of TV channels. Whoever gets his satellite first will carry off the whole European market." The

conviction thus expressed yesterday by someone close to Louis Mexandeau [minister delegate for post and telecommunications] shows the importance of what is at stake. Indeed, a veritable race against the clock has now started.

"France and the FRG want to implement a project that will closely follow technological trends and use cheaper and more flexible materials," Francois Mitterrand stated yesterday after the Rambouillet summit meeting.

As a result, a French-German working group was set up; within 2 months, based on the Thery report, it will have to define the type of satellite that should be built, its cost, what manufacturers should make it and what technologies they should use. "Project stages must overlap," people in the government insist. For, last Friday, when the American Clay Whitehead signed an agreement with Luxembourg he undeniable got a big head start.

The countdown has started. Today, it looks as if France will stop at nothing to prevent the United States from invading the European space: television and telecommunications included. To carry out this project, Clay Whitehead will have to run through an "obstacle course," we were thus told at the Ministry of Post and Telecommunications.

Here are some of the tasks now requiring Mr Whitehead's attention: modifying transmitters and antennas to match the orbit position allocated by the International Telecommunications Union, finding a launcher, clients, and capital that would not have excessive yankee connotations.

And since a regulation adopted in Geneva in 1977 provides for a single frequency, i.e. 5 TV channels, per country, he will also have to use the much larger telecommunications band--subject to much more flexible regulations--to broadcast on the other 10 planned channels.

#### Making Up For Lost Time

The challenge that France must meet today is to manage to launch a European satellite before, or at least as fast as Clay Whitehead, based on a jointly defined standard. So as to somehow "cover" the skies of the Old Continent.

In a first stage, all possible means to defeat the U.S.-Luxembourg project will be tried. All are aware that this is an extremely serious threat. And the risk of a mixed "Coca-Cola" satellite used for TV or telecommunications purposes is a severe one for Europe which must already face alliances like that resulting from the ATT-Philips agreement.

"We could retaliate through regulations. But first of all, Europe's answer must be technical and economic. What is at stake is the occupation of the Hertzian space," Louis Mexandeau insisted. Putting spokes in the opponent's wheels is not enough. We must also urgently provide a counterproject that should be as European as possible.

For "if the Luxembourg project does not succeed, the same threat will emerge elsewhere," the minister of post and telecommunications pointed out. And now that the boundaries between television and telecommunications have been abolished, a large sector of the French industry, and its jobs, could be swept out.

The Germans do not seem to feel quite as strongly about it. Helmut Kohl mentioned "lowered costs, a necessary coverage of the FRG," and linguistic problems. These are certainly more down-to-earth concerns.

It is true that TDF-1, the first heavy-satellite project, has already cost over FF 1 billion and that the development of a second generation, which was confirmed by Francois Mitterrand, will be long and will require large additional investments.

It is also true that when it comes to communications the Laender will have their say. More so than Bonn.

Without its political determination to win, Europe would not stand a chance. In France, it took a long time to decide whether to continue the project inherited from the past. Despite attempts at negotiating, the French were beaten to the start.

Is there enough time left today to make up for lost time?

9294

CSO: 5500/2711

## TELECOMMUNICATIONS FIRM HOPES FOR ARABIAN GULF CABLE SALE

Copenhagen BERLINGSKE TIDENDE in Danish 28 May 84 Sect III

[Article by Karin Kaas: "Greater Nordic Expecting Lower Figures in Telecommunications Activity; 1984 Result Particularly Dependent on Improved Figures From Daughter Firms"]

Greater Nordic Telegraph Company [Det Store Nordiske Telegraf-Selskab] does not expect that its telecommunications activities this year will maintain the same high level as in 1982 and 1983. Even though the company's daughter firms have had good sales records for the first four months of this year, it continues to be an open question as to whether this growth can offset the decline in income from the company's telecommunications activities. This was the opinion of Erik Mollerup, chairman of the board of Greater Nordic Telegraph Company, as expressed at the firm's recent stockholders' meeting.

#### Figures "Quite Satisfactory"

He characterized the firm's figures from 1983 as "quite satisfactory," but said at the same time that the figures from several of the daughter firms were disappointing, and that the main thrust should therefore be to concentrate on improving these figures.

Concerning telecommunications activity, which falls under the parent company's jurisdiction, Erik Mollerup said that "extremely satisfactory" figures were achieved this year. Traffic revenue figures were characterized by increased volume as well as favorable balance prices, since payments for the use of the firm's cable system are made in dollars or Special Drawing Rights, where the dollar is valued high.

Telecommunications activity has also come to the forefront in the negotiations concerning the maintenance of a new undersea cable in the Arabian Gulf, where there are new opportunities opening up, according to Erik Mollerup.

#### Market Reduction in Charter Income

He concluded his remarks at the stockholders' meeting by saying that the charter income for this year will be markedly lower than in 1982 and 1983, whereas the telecommunication income is expected to maintain the same level as last year.

In his review of the daughter firms, Erik Mollerup noted that the growth figures for Danavox were much lower than had been expected, despite a 20 percent sales increase. This was attributed to problems in the firm's American branch, and enforced production procedure alterations, involving a changeover to advanced thick-film technology, which resulted in sizeable training costs and costly material losses.

Another daughter firm, Elmi, also achieved a sales increase of almost 20 percent, as well as a profit of almost six million kroner (after taxes) on sales of just under 40 million kroner.

"GNT Automatic, economically speaking, was a big disappointment in 1983, and finished out the year at a loss," noted Mollerup. "This was due to the fact that important orders for pay telephones were postponed because of internal problems in the client countries. It was also more costly than we had expected to start production on the Mark II telephone, since the Copenhagen Telephone Company ordered more of them than we had expected," he added.

#### Promise Made to Stockholders

He was able to make a promise to the stockholders that there would be efforts made to improve the effectiveness of production in GNT Automatic, and to bring down general costs. But the firm's activity is currently in a period characterized by significant production and marketing readjustments, which will affect manufacturing this year. However, Erik Mollerup expects better operating statistics this year than last year, though he admits that it will take some time before GNT Automatic reaches a satisfactory level.

Despite a sales decline of eight percent, the operational figures for Hellesens were in the black for 1983. The sales decline was attributed partially to the fact that the consumption of traditional dry-cell batteries has gone down on the main Nordic markets, and partially to the fact that economic and political problems in Hellesens' African export market have had a limiting effect on sales.

Concerning LK-Nes, which showed a modest profit for the first time in three years, Erik Mollerup said that they had been successful in halting rising production costs and in increasing export sales. Incipientities in the Danish construction market yielded better domestic figures, and finally, the liquidation of a number of unprofitable projects contributed markedly to the firm's development.

The EDB firm, Tidane, showed satisfactory growth for 1983, partly because of a development contract with Danish Federal Railways.

'ELECTRONIC MAILBOX' SERVICE TO START IN 1984

Heidelberg NACHRICHTEN ELEKTRONIK & TELEMATIK in German Mar 84 pp 91-93

[Article: "TELEBOX--A New German Mailbox Service: The 'Electronic Letterbox' Scheduled for 1984"]

[Text] Before the end of 1984 the German Post Office (DBP) will test a new type of service. It is the "electronic mailbox system," to be called TELEBOX. This additional service offering for the "datel" services is to be tested in Mannheim and goes into operation at the end of this year. By the term "electronic letterbox" is understood a storage location where messages may be filed and subsequently called up, within an in-house network or remotely via the public data network.

TELEBOX is a computer system possessing the essential basic functions of transmission, readout, filing and reacquisition of communications, all based upon "personalized boxes." A personal box is assigned to each user and he works directly with the system. He can send messages to other users and also receive them from other users. Quite generally one is speaking here of a "personalized" communication service. A password (specific sequence of symbols) assures that only the user has access to his box. Every user can enter the system at any time and from any location via the interconnected communications network. Besides the special box function various further advantages are offered.

The TELEBOX is one more in the Teletex, Telefax and monitor-text line of services and shows that the present public networks continue to offer their users ways of making office communication easier. Market studies and a look beyond our borders has made it apparent that personalized business communication required a broader medium. In the organization of the new TELEBOX service consideration has also been given to linking the system with similar systems in other countries so as to extend its range worldwide. A corresponding standardization is beginning to be established internationally.

In many countries such systems exist bearing the name "mailbox systems." In the meantime the international standards have reached such a stage of development as to provide a good basis for a worldwide system. Private systems can later interconnect with the public network by using the international standard. In the United States the number of "mailboxes" is estimated to be

150,000. They are widely accepted there. In consequence of international market ties it is expected that also in Germany there will be great interest.

#### What Is TELEBOX Able To Do?

Each telebox has an alphanumeric address and the password which has already been mentioned. A message is introduced with accompanying address and sent off. It reaches the partner's box and can be interrogated by the latter whenever he connects himself with the system. Thus messages can be exchanged without difficulty independently of the presence or absence of the partner. Only the sender and the recipient are involved. Hence the designation "personalized communication service." A supply of commands makes it possible to choose between different service elements and to control the sequence of events.

If the recipient wishes to obtain only a glance at the entered messages he can have only the headings listed of all messages in his box. If a message is to be sent to several recipients multiple addresses may be used. The message itself need be entered only once. It is also possible to have re-transmission of entered messages to other users with or without the addition of commentaries; simplified replies are also possible. If it is desired to keep copies of entered messages it is possible to store these in files under arbitrary titles and with arbitrary file structures. Thus the file cabinet is replaced by an electronic memory.

By means of an extensive set of commands the user can also edit or format texts and then store these in text data files to which access may be had at will. Indexes make it easy to locate addresses of partners to whom one wishes to send messages or to whom one has already sent messages. The "black board" feature permits making messages accessible to all box owners or to specific groups. Their attention is brought to these messages when they make a connection with their box. Further services include distributor lists, user aids, etc. The good operating instructions together with system announcements make working with the new service very simple for users of the teleboxes.

#### Access to the Telebox

Just as today one can become a telephone subscriber, Telex subscriber or Datex subscriber so one can become the owner of "boxes." The requirements to be met by a prospective user are reasonably simple and the process of making the corresponding applications is rapidly completed. Anyone possessing an asynchronous data terminal which is already connected to the long-distance communications network can gain access to the TELEBOX system by dialing. The corresponding equipment is already being inexpensively marketed so that newly interested parties can become users without great investment risk. This group also includes acoustically coupled devices so that the possibility of mobility while gaining access to the service can be an attractive feature. For them it no longer matters where one is located at a given moment. The service can be used via the nearest telephone. Later on additional equipment will further facilitate access to the TELEBOX system.

The tariff structure for this service will include a basic charge, a hookup charge, a time-dependent use charge, an address charge for messages sent and memory occupancy charges. In addition there are the connection charges into the access networks. However, these charges are still to be determined both in their structure and magnitude and are to be embedded in the telecommunications ordinance.

#### Using the New Service

The new service is especially suited to communications partners who are familiar with one another and who are in continuous contact; here, then, we are speaking of closed cycles of communications traffic. When the communications partners are frequently away on trips or are in any other way hard to reach they are now in possession of a means of communication which does not depend upon their presence at the job site--as is the case with all other means of communication. Often it is necessary to agree upon a date for a conference, or opinions must be gathered by a certain date or enterprises embarked upon or training must be coordinated. In these cases communications with multiple addresses and receipt confirmation or an entry at the "black board" open up possibilities not offered by any other medium of communication in a similar way.

Nowadays traveling often makes it impossible to exchange information. If the traveler is sitting in his hotel room then his office is unoccupied. Then without difficulty while sitting in his hotel room, using the telebox with the aid of a transportable acoustically coupled terminal carried in his briefcase he can read entered communications, supply an answer or other communication, call up a communication from memory or do whatever else the situation may require. The partner who interrogates his box the next morning in the office or who may perhaps himself be traveling is now apprised of the other partner's reaction and can continue his own activities accordingly.

Naturally one must first become accustomed to the use of such a tool. The advantages to be gained in information flow are self-evident. There are a multitude of signs that the German market will welcome this service. It is assumed that about 5 to 10 percent of the asynchronous data stations now employed (around 25,000) can be used in this way. This new variety of service will at first appeal principally to the big users. This basic office communication, as it is perceived by trained communications partners, will have an interesting effect upon our knowledge of the communication behavior and job administration behavior of the "partners." In any case organizational changes and the process of relearning are to be expected.

8008

CSO: 5500/2696

RECENT DECISIONS ON VIDEOTEXT EQUIPMENT, SERVICES

Heidelberg NACHRICHTEN ELEKTRONIK & TELEMATIK in German Feb 84 p 74

[Article: "Existing Engineering Videotext Standard Fixed: Videotext Is Being Expanded"]

[Text] From now on the videotext used widely by FRG television organizations will no longer have the character of an open-ended experiment, but has been so fixed in its technical parameters that the auxiliary equipment (videotext decoder) required by the television set can also be used in the future without limitation. This eliminates the uncertainty of many persons interested in videotext who may have feared that the expensive auxiliary equipment costing today from 300 to 400 marks might one day have to be replaced because of a change in the standard. This was announced by the chairman of the ARD/ZDF Technical Commission, Dipl Engineer Frank Mueller-Roemer.

It is true that in accordance with the agreements existing between ARD and ZDF the test phase, formerly designated the field tests, is to be continued officially until the end of May this year with the participation of the newspaper publishers; but this changes nothing in the final validity of the fixed engineering standard.

It was possible to make this decision after the prior agreement of West European telecommunications administrators in September 1983 on the standard for picture screen text and after that standard had received the approval of all 26 European countries which are members of the CEPT (Conference Europeenne des Administrations des Postes et des Telecommunications).

The videotext of the radio organizations and the picture screen text employed by the German Post Office will therefore in the future have technically the same quality for the subscriber. They will differ neither in the symbolism which is visible to the subscribers (letters, numbers, etc.) nor in the possible ways of representing graphics, drawings and the like.

According to statements of the industry, at the end of 1983 about 400,000 videotext-using television receivers existed in private households in the FRG so that thereby the FRG occupies a good central position in the European concert (Table).

At the present time the industry is selling about 10 to 15 percent of all new television sets with a built-in videotext decoder. These will continue to be capable of functioning whenever in the future the modes of videotext representation are expanded.

In all CEPT countries the videotext process works in accordance with the Teletex standard developed in Great Britain. This standard has also up to now formed the basis in Germany of those sets sold with videotext decoders.

Table Showing Numbers of Videotext-Capable Television Receivers in Some Countries (Source: TK ARD/ZDF)

<u>Country</u>	<u>Number of Videotext-Capable TV Sets (millions)</u>
Great Britain	1.5 ... 1.8
Austria	0.4 ... 0.5
FRG	0.4
Netherlands	0.25
Switzerland	0.1

It is intended that after 1 June 1984 videotext (television text) shall be introduced as a permanent service in both the ARD and ZDF systems. It is true, of course, that the necessary legislation for this has yet to be introduced. If ARD and ZDF should want to institute separate videotext services then this would require a preparatory time of at least 1 year.

On the other hand it is certain that the state radio organizations (ARD) will offer their own videotext services in their third television programs.

What attitude the east bloc countries will have in the future toward the videotext or picture screen text system is at the present time unknown. Hungary, in an agreement with all East European countries, is going to start experiments with videotext in the near future, also using the standard which has been established for the FRG.

As a result of the final fixing of technical specifications there shall in future be expanded opportunities for the long-term planning of videotext contents. How these possibilities are to be used is at present under intensive discussion in the participating radio organizations.

8008

CSO: 5500/2696

## COSTS FOR NATIONWIDE CABLE NETWORK ESTIMATED

Heidelberg NACHRICHTEN ELEKTRONIK & TELEMATIK in German Jan 84 p 17

[Article by J. H.: "Cable Television Will Cost 30 Billion Marks"]

[Text] According to the newest data issued by the German Federal Postal Ministry the German Post Office annually invests about 1 billion marks in the expansion of the broad-band distributing network using coaxial cable technology. The post office employs about 4,400 workers in this activity. They work in the areas of cable-laying (100), planning and assembly (3,500), operations (370) as well as acquisition and subscriber servicing (450).

In addition, private enterprises employ nearly 10,000 employees in the area of cable manufacture (800), cable-laying (4,300), equipment manufacture (900), delivery (1,500) and household installation (2,000 to 2,500). According to calculations developed by the post office for its area and by the cable association or ZVEI for the private enterprises, there has been confirmation of earlier post office estimates according to which the creation of broad-band distributing networks creates and secures as many as 15,000 jobs for each 1 billion marks invested.

This claim is also substantiated by the lengths of cable actually laid by the post office in 1983 and by the transfer stations placed under construction (cable connections). Table 1 shows a comparison with the last 3 years.

Table 1. Cable Lengths Laid and Installed Cable Connections in the Period 1980 to 1983

<u>Indicator</u>	<u>1980 ... 1982</u>	<u>1983</u>
Cable kilometers	23,000	31,000
Cable connections	232,277	248,000

Network Cost: 30 Billion Marks

In the reply of the government of the FRG to major questioning by the SPD fraction a figure of 20 to 30 billion marks was named as the investment cost for cabling practically the entire surface of the FRG. In order to achieve in the next 5 to 7 years a level of private domestic cabling amounting to

about 50 percent it will be necessary, depending upon demand, financing opportunities, net yield development and planning capacity, to supply between 1 and 2 billion marks annually.

The post office data according to which the total investment costs of cabling are from 20 to 30 billion marks were in the past considered to be doubtful. If the computations are not limited to only extreme values and if one disregards especially expensive converters used by subscribers (which are used by the post office only to a limited extent for the cable television pilot projects) then one gets the same cost figures as those of the post office. In these calculations the post office assumes a figure of 1,600 marks per cable connection. Since on the average three dwellings have one cable connection the cost per dwelling, in other words for one residential connection, will be somewhere about 500 to 600 marks. These are average values which include both the relatively expensive installation in rural regions as well as the very profitable installation in areas of dense population.

#### Forty-Four Percent Want a Cable Connection

According to a questionnaire conducted by the Cologne IHK among house and apartment owners there is in Germany a high degree of interest in cable connection. According to this questionnaire 44 percent are interested in a cable connection, 5 percent already have the connection, 36 percent want to order a cable connection within 3 years and 6.5 percent have already applied for a cable connection.

In a series of further representatively conducted studies in every case it was established that there is an interest in or a need for more television programs. This was the view of on the average 30 to 50 percent. The most important results of the latest investigations in the year 1983 are:

#### The Marplan Study (commissioned by: South German Radio)

Of those questioned 35 percent welcomed additional TV programs, 48 percent in the age group from 14 to 19 want additional TV programs and 30 percent of those questioned are prepared to pay for additional programs (63 percent less than, 37 percent more than 8 marks per month).

#### The Wickert Study (commissioned by: Association of Cable Broadcasters)

Of those questioned after being presented with a list of communication possibilities 50 percent selected cable television, 43 percent were prepared to pay fees of up to 15 marks monthly, 13 percent of those questioned were willing to pay up to 30 marks for a program offering which would furnish up to 20 channels.

These data support the prognosis of the German Post Office regarding the development of cable connection density in broad-band distributing networks, according to which, for example, in the third year after initiation of the networks would amount to about 40 percent. The German Post Office proceeds from the assumption that the distribution of locally available programs is alone adequate for acceptance and hence profitability of the networks.

8008

CSO: 5500/2696

## HELSINKI AREA COMPUTER NETWORKS MERGE

Helsinki HELSINGIN SANOMAT in Finnish 15 May 84 p 30

[Article: "Data Networks Merged in Helsinki Area"]

[Text] The Postal and Telegraph Administration and the Helsinki Telephone Company have reached an agreement on the joint merging of their packet switching data networks. Cooperation can improve and reduce the cost of their opportunities for using data services.

According to the agreement, clients of the Helsinki Telephone Company (HPY) will be able to use the data network of the Postal and Telegraph Administration (PTH), which connects Helsinki to the outside and to foreign countries. PTH, for its part, can conduct business in the area of the Helsinki Telephone Company.

PTH's Datapak-system and HPY's own packet switching system essentially increases the opportunities of both enterprises to be connected with the computer archives of Western Europe and North America and each other's files. It is expected that there will soon be several hundred users of the packet switching system.

The Postal and Telegraph Administration put its own data packet switching system into operation last September and HPY did the same a few months later.

## Draft of Telecommunications Bill Still Being Debated

Negotiations on merging data packet networks have been going on for a long time already, but the stumbling block has been the lack of agreement between the parties concerned on who will manage the new data services in each area. Generally speaking, it has been a question of whether PTH will also be able to offer data services in the areas of local telephone companies under private control.

The dispute in question has slowed down the process of drafting new telecommunications legislation, which has been the subject of reform for years. At this time the division of work between the parties concerned is based on a Tsarist telephone proclamation dating from 1886, which says nothing about computers.

The new law has been under consideration for years in work groups and committees. A draft of the telecommunications bill was finally obtained in February when the committee led by Esko Rekola submitted a report containing several dissenting opinions.

In spite of the differences of opinion, the report offered some rather definite packages for approval. According to it, the Postal and Telegraph Administration as well as private companies could build networks. In addition, they could all use each other's networks for transmitting data. The more persistent disputes on how things would work in practice would be left to statutes outside of the law.

In the opinion of the telephone companies, the bill favors PTH, which, for its part, would have wanted all the regulations included in the law.

On the basis of this report the Communications Ministry has received nearly 30 statements, which the ministry will attempt to assemble during the month of May. There is even a slight possibility that the ministry's five-man Communications Policy Committee will conduct a preliminary debate of these statements yet in May. The actual debate will last until the end of the year.

#### Agreement on Merging of Kilo

In addition to the legislation problems, relations between PTH and the Helsinki Telephone Company have been aggravated by the local dispute in Espoo's Kilo, on which an agreement was reached last week. PTH constructed a new data transfer station in Kilo in the area of the telephone company, but HPY refused to include it in its network.

The Postal and Telegraph Administration and the League of Telephone Companies emphasize that the Kilo solution was only the resolution of one crisis and no conclusions can be drawn from this with respect to a general rapprochement of the parties.

The League of Telephone Companies seems rather to be bitter about the solution dictated by PTH. PTH for its part, is appealing to the interests of the customer.

What is most essential in last week's agreement package is that data packet networks were merged and that HPY has been included in the merged data network system. Other private companies have already joined this system.

Last week's decisions will not affect the enactment of the new telecommunications law, which will become a tough political campaign of persuasion within the government and above all between the government and the opposition.

10576

CSO: 5500/2694

# RPR CHAIRMAN CHIRAC ON DECENTRALIZATION OF RADIO, TELEVISION

Paris LES ECHOS in French 16 May 84 p 16

[Article by Valerie Lescable]

[Text] It has taken the Right (RPR [Rally for the Republic] and UDF [French Democratic Union]) 3 years of socialist-led government to finally define a liberal platform on communication.

Indeed, what can there possibly be in common between yesterday's Jacques Chirac, head of the RPR, pleading the case at a press conference for "bestowing constitutional force upon the freedom of communication," and proposing "doing away with monopolies and with the confinement of the public service to a single radio and television company," and the Jacques Chirac, prime minister under Valery Giscard d'Estaing, joining his voice, around the end of 1974, to the voices of those who, conscious of the political risks involved in a decentralization of the airwaves, had torpedoed the first cable plan and relegated France to years of lag, while all our neighboring countries proceeded to equip themselves?

What can there be in common between the political party (the RPR) that yesterday proposed the privatization of two television channels and all long-wave radio channels (EUROPE 1, RMC, SUD RADIO, RADIO CARAIBES INTERNATIONAL, to say nothing of RTL, and even HAVAS), and the party that not long ago brought about the ouster of a manager of one of these same radio channels for having "derided" the government--the UDR [Union of Democrats for the Republic (Gaullist party)]--then in power?

In short, what is there in common between him who has just demanded the free-handed treatment of frequency modulation to the point of "satisfying all applications for radio broadcast licenses except for certain ones in the Paris region," and those who, not so long ago, when the Left was still in the opposition, compelled the evacuation, by force, of all the budding "broadcast amateurs" who were trying--illegally at that time--to broadcast on French territory?

Further examples could be cited ad infinitum. To the point where Jacques Chirac's platform--"For a new audiovisual communication policy,"--takes on the allure of a counter-plan to the policy being pursued by the government in place.

#### For Funding by Advertising and Marketing

True, the present situation is by no means an exemplary one. And the head of the RPR certainly did not refrain from putting his finger on some serious flaws: The poor quality of programming, the government authorities' obsession with the audiovisual and their temptation to control it, the financial crisis, the growth in expenditures and the unwieldiness of the structures.

But all of these things were true before. And Jacques Chirac forgot to acknowledge the road that has been followed since 10 May 1981: The licensing of some 1,000 privately-owned stations, the green light to the connecting of 14 million households to cable television between now and the year 2000, continuation of the satellite effort, legacy of the prior 7-year period, the effort to decentralize [radio channel] FR3, etc.

All of these efforts have been neither smooth-running nor free of mistakes. Mistakes, for example, like the one of permitting local radio stations to come into being without providing them with the means of subsistence.

No one, however, will be duped. If Jacques Chirac is arguing today for privately-owned local television stations "that would bring the written press in as partners in local GIE's [economic interest group(s)], in which no shareholder would be allowed to acquire a majority position," it is because the launching, in 1982, of the cable plan, which even the mayor of Paris (Chirac) himself has acknowledged to be "ambitious," has compelled the opposition to try to go one better.

"Operations will be funded exclusively by advertising and marketing, and the National Communication and Freedoms Commission, (a sort of rehashed High Authority) will oversee their action."

In short, everything is possible tomorrow, claims the head of the RPR. Provided full advantage is taken of the possibilities inherent in a marketplace economy (competition, the dynamism of the advertising industry, a lowering of compulsory levies) and in a liberal approach (use of new frequencies, deregulation).

Between electoral promises and the reality of carrying them out the gap is often a vast one. The UDF<sup>1</sup> and the RPR appear today to be joining in a chant of "Mea culpa."

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1. A press conference was held last week with Messrs J. M. Raush and Gouyou-Beauchamps.

[Mixed insert by J.-P. C.: "'A Trumped-Up and Truncated Decentralization'" follows]:

As mayor of Paris, Jacques Chirac had already previously expressed his views regarding the decentralization. Yesterday, as head of the RPR, he unleashed a severe criticism of the audiovisual decentralization, calling it a complete failure.

According to him, the creation of some 15 departmental radio stations under the aegis of RADIO-FRANCE can in no way be made to appear as a genuine decentralization of the audiovisual sector of the public service, when "not a single regional radio broadcast company has as yet made an appearance."

Nothing more than the 12 regional television broadcast companies nor than the regional audiovisual communication committees. The latter, however, suits Jacques Chirac just fine, since these committees "would have been completely dominated by the Left."

As the RPR leader sees it, the audiovisual decentralization was brought to a dead halt "as soon as the local election results became unfavorable to the Left." But never mind: Jacques Chirac and his party are ready, "as soon the circumstances will permit it," to take up the political challenge of continuing the decentralization.

The mayor of Paris provided a few clues. The regional stations of the FR3 network will be converted into mixed-economy companies; the cable networks are to be subjected to the laws of the marketplace; the medium-wave radio network is to be regionalized; and the privately-owned local television stations, several tens of independent local stations, except for territorial collectivities, are to be made available to private appetites. The marketplace, and nothing but the marketplace.

9234

CSO: 4500/2412

## BIARRITZ VIDEOCOMMUNICATION NETWORK BEGINS OPERATION

Paris ELECTRONIQUE ACTUALITES in French 25 May 84 pp 1,12

[Article by D. L.]

[Text] Biarritz--On 21 May, Mr Mexandeau, minister of PTT, inaugurated the Biarritz fiber optics cable network. A Paris-Biarritz videophone communication between the president of the Republic and the minister of PTT marked the official opening of service on this new facility which, because of its size and the multiplicity of services it makes available to its 1,500 subscribers, has no equivalent throughout the world. With services ranging from telephony to videophone, from access to different serving centers to the distribution of 15 TV programs and 12 hi-fi channels, the Biarritz pilot network prefigures the wideband multiservice network of the future.

As of now, this remarkable achievement, realized under the prime contractorship of SAT (Telecommunications Corporation) in cooperation with LTT (Telephone and Telegraph Lines (Company)), has attained the first objective assigned to the project: The acquisition of technical know-how in the field of fiber optics systems, from production of the fibers to the operation of networks. The opening of the network is now going to permit an assessment of the interest on the part of the public in videophone service and, more generally, new wideband services involving animated graphics (second objective), and (third objective) the making up of an international showcase illustrating French industry's know-how in the field of fiber optics multiservice networks.

A certain polemic has arisen as to the cost of the Biarritz network (600 MF [million francs]), in which some absurdly address this cost on a per-subscriber-terminal basis! The fact is that 600 MF is the price being paid to advance the new technology from the laboratory stage to the commercial operational stage. The Biarritz project has made it possible to put the manufacturing techniques involved on an industrial scale, specifically as regards the production of the network's 10,000 km of optical fibers by TOI [expansion unknown], its 20,000 connectors by Souriau and SOCAPEX [expansion unknown], its 70- and 10-fiber cables by SAT and LTT, etc... In addition, the Biarritz project provided the means of gaining familiarity with the required cable-

laying, -pulling and -connecting techniques. In short, with this pilot network, PTT and the industrialists have available to them an extraordinary test bench enabling them to observe the live-operational behavior of close to 3,000 lasers and as many again of avalanche photodiodes. "We are now gaining a perfect mastery of all the problems related to optical-fiber manufacturing and splicing techniques, which was not the case prior to this project," we were told by Mr Marc, who heads the Biarritz project for SAT, and who emphasized that 90 percent of the equipment used was developed specifically for the project.

#### Structure of the Network

Mr Dondoux, director general of the DGT (PTT) Telecommunications Directorate, pointed out another justification for the Biarritz project. "If France is to establish a presence in the world optical communications market, it must accept the challenge of the advanced technology that market calls for, permitting us to export, as we did in the case of time-division switching." Mr Dondoux took the opportunity to reaffirm the DGT's cable-network strategy: The infrastructure is to be built exclusively around the use of optical fibers; this does not preclude the possibility of using collective antennas and microwave systems to serve certain sites, particularly in the case of local television programs.

Mr Boulin, CFO (chief executive officer) of SAT, and Mr Imbert, CEO of LTT, spoke of the impacts imparted by the Biarritz network's industrial innovations. Mr Boulin dwelt on the developments effected in the wideband switching field; Mr Imbert, on the tale-distribution subsystem and the videophone terminal developed by SEBEL (expansion unknown) (Thomson).

As of today, the Biarritz pilot network, which was given the green light in 1979 and on which construction started around year-end 1980, has 50 subscribers. This figure will be increased to 1,000 subscribers in 1985. It is structured like a local telephone network, with a central exchange and three secondary exchanges to which the subscribers are connected.

The central exchange, which is connected into the general network, is comprised of a telephone central office and a videophone switching matrix slaved to it, as well as a TV and hi-fi program distribution control center which handles programs received via microwave stations and via satellite.

The secondary exchanges, which are connected to the central exchange, embody multiservice connecting units (1 per 640 subscribers), very similar to a URN (digital connecting unit), videophone concentrators (1 per 384 subscribers), and TV and hi-fi program selector units.

For the telephone and videophone switching portion, SAT used its own TC 300 automatic time-division switcher. The videophone connecting system is of the crossbar type, in an 8 x 8 crosspoint configuration. Noteworthy is the use of signalling via a 64-Kbit/sec signal channel: The multiservice connecting unit receives from the subscriber a 128-Kbits/sec digital series containing the encrypted telephone channel and the signalling.

## The Subscriber Installation

The cable network includes the carrier network linking the principal exchange to the secondary exchange(s) (by means of 70-optical-fiber cables), and the star-configured distribution network. The latter, starting from the exchanges, consists of 70-fiber cables that then branch out into 10-fiber cables terminating in "fanning boxes" (located in front of the buildings to be served) and equipped with 10 monofiber connectors to which the subscriber's 2-fiber cables are brought.

The subscriber installation consists of the subscriber control unit and the inside wiring that interconnects the terminals. The control unit, which is housed in a small wall-mounted box, converts the optical signals into electronic signals (and vice versa) between the terminals and the central system. The in-house cable consists of one coaxial pair for the transmission of TV and hi-fi signals and of the videophone image signal, and two symmetrical pairs, one of which is used to transmit the signalling and the other the videophone sound. This in-house bus terminates in standardized terminal connectors.

The videophone set, conceived as a compact wall/office terminal, performs videophone functions (625-line images) as well as advanced-technology telephone functions. It includes a videotex keyboard.

The connecting of the subscriber's television sets and hi-fi amplifiers requires interfaces for the conversion (or demodulation) of signals for acceptance by these terminals.

The subscriber is thus able to access a large number of services. In addition to videophone, TV and hi-fi programs, and the videotex serving centers, the subscriber will also have the possibility of accessing a "televideo-telque" (Steria/Thomson) that will be in service this September, and an image-bank serving center (Project Assistance) targeted for service this summer.

With the Biarritz network, France now has at its disposal a remarkable and unquestionably advanced instrument. There can be no resting now on our laurels. We must "break through." Our industrialists have shown they are ready and well armed to meet the competition. Government efforts for the realization of the cable project must no longer be delayed.

973H

CSO: 5500/2710

## BUSINESS RESULTS, STRATEGY, NEW MARKETS IN 1983-1984 FOR GCE

Paris L'USINE NOUVELLE in French 24 May 84 pp 34-41

[Article by Jacques Barraux: "CGE Objective : World"]

[Excerpts]

This is the year of reckoning for the General Electric Company. Two years after the nationalization of the group and the departure of Ambroise Roux, the state as stockholder will pronounce a public verdict on the management of the corporation. The mandate of Jean-Pierre Brunet, 64, president-director general since 1982, is coming to a close this year. The first election of workers' representatives to the board of directors provides the opportunity for organizing the succession. On 14 June the new tripartite board will elect the president. We will then know the intentions of the state, the sole arbiter of the final choice.

An extension of Jean-Pierre Brunet's appointment by a few months cannot be excluded. If not, the logical successor would be Georges Pebereau, 48 (16 years spent at the head office in rue La Boetie).

Moreover, 1984 is not only an important year for the career of the men who manage the CGE. It is even more the year of reckoning for the corporation itself. One year after the agreement on the trading in of Thomson's telephone section (the negotiations were kept secret for 5 months and pursued on behalf of CGE by Georges Pebereau and Philippe Dargenton, deputy director general and responsible for major contracts), the group has already completed the build-up of its management apparatus for telecommunications. The new company, Thomson Telecommunications, straightforwardly tied in with the organization CIT-Alcatel. Bridges have been thrown across the divisions and branches. Most important of all, the same men are now holding the key positions in the two organizations. Noticeable, for instance, is the consolidation of the authority of Christian Fayard, 51, director of telecommunications (younger brother of Jacques Fayard, in charge of consumer electronics at Thomson), who is simultaneously the boss of the public telecommunication departments of CIT-Alcatel and Thomson Telecommunications. The coordination of CIT's E 10 product line and Thomson's MT range has already been completed. Jacques Imbert is about to establish integrated departments for space, radio waves and transmissions.

Why this urgency? Because Georges Pebereau wishes from this year onward to score points in what he calls "the blitzkrieg of deregulation. A historic opportunity offered France for a very brief period."

It is true that the deregulation of telecommunications in the United States (and, to a lesser extent, in Japan and Great Britain) has launched a tidal wave on the markets. Quite possibly it is the greatest business event of this last quarter of our century. The total redistribution of the industrial game is actually accompanied by a powerful intake of air: Proliferation of new services, confusion of models, unexpected intersections. Some launch themselves into telecommunications from the computer side (IBM, for example). Others profit from their familiarity with the PTT [post, telecommunications] administrations, until now highly compartmentalized all over the world.

What is currently happening in North America and the Pacific is "a windfall for small and medium-size manufacturers." It offers them an opportunity to position themselves, form alliances and, if possible, restrain the appetites of the three best armed international giants: AT & T, IBM and ITT. Georges Pebereau explains that "for the French electronics industry, this may amount to a second appointment with destiny." The first occurred in the 1960's, when CIT-Alcatel, backed by the Cnet, threw itself wholeheartedly into time-division switching. The miraculous E 10 suddenly allowed us to pass from being a LM Ericsson license holder to being the leader of a new generation of telephone exchanges. Time-division has enabled us to destabilize established positions. Thanks to this technological feat, we have changed our standing on the international telephone club. Now we have another opportunity: To use the opening of the American market to implant ourselves there. We must quickly claim our place on the world's preeminent market before the door closes again."

America has therefore turned into the obsession of the CIT-Alcatel managers. According to Christian Fayard, "the North American market alone accounts for 40 percent of the world market. Not to be there just when it is open to foreign suppliers amounts to condemning ourselves to extinction."

#### Rallying Their Forces Around Two Strongpoints

That is why there is a "D-Day atmosphere at rue Emeriau, in back of the Eiffel Tower, where the joint CIT-Alcatel-Thomson Telecommunications offensive is being prepared. In a few days, the American subsidiary CIT-Alcatel Inc will be renamed AlcatelThomson Inc. It will have two subsidiaries. The first, Alcatel-Thomson Telecommunications, will assume the assets of CIT-Alcatel at Reston, a suburb of Washington, D.C. This company employs 250 and has worked on the Americanization of the E 10 telephone exchange since 1980, brought up to date and renamed E 10 Five. The second subsidiary will be called Alcatel-Thomson U.S.A. and will specialize in communication and office automation (Alcatel, Friden, Ponce, and so on). "Our plan of attack is quite simple," explains Alain Le Bihan, marketing director of the public telecommunication department of CIT. "Aside from a core of hardware and software--around the E 10--we want to present a complete package of products for use in classes 4-5 (middle of the scale)."

The objective: A modest place in the sun at the side of the time-division equipment manufacturers who dominate the United States: AT & T, Northern

Telecom, GTE, ITT and Stromberg Carlson. Alcatel-Thomson does not yet have the slightest chance of breaking into the market of the 22 BOC's [Bell Operating Companies], organizations which issued from the break-up of the AT & T network. Each BOC is equal in importance to the French PTT, and it will require considerable backing to soften them up! The two present targets of the French are the 1,500 independent telephone companies (many of them subsidiaries of powerful holding companies) and, in particular, the 1,000-1,200 REA's [Rural Electrical Authority], a kind of "mini-DGT" [expansion unknown], which are lightly equipped and in some cases serve only a few hundred subscribers. It is essential as quickly as possible to gain access to an established system. Christian Fayard hopes to obtain \$30-40 millions' worth of orders from 1984 on. In 1987, the sales staff should bring in orders worth at least \$200 million.

It stands to reason that the American business weighs heavily in the deliberations of the CGE general staff at rue la Boetie. It involves constant meetings between Georges Pebereau and European manufacturers with a view to the establishment of new coalitions. Still, the telephone is only one of the elements in the current redeployment of the "federation" of CGE companies.

With the exception of Pechiney and Thomson, no other nationalized group has so profoundly changed its make-up in just 2 years. Total withdrawal from one trade (construction and civil engineering). A peace treaty and division of territories with Thomson, not only with respect to telephones but also for defense electronics, cables, space and domestic electric appliances.

Alsthom-Atlantique's take-over of CEM [Compagnie Electro-Mecanique], Dubigeon Normandie and CIMT [Compagnie Industrielle de Materiel de Transport]. Technical-commercial understanding with Olivetti (CGE manages 10 percent of Olivetti's French shares). When Ambroise Roux left in 1982, the group was the only recently nationalized entity on the move. Was this merry-go-round of investments and disinvestment really indispensable?

"We acknowledged our limitations," answers Georges Pebereau. "We could no longer afford to disperse our capacities, confronted with international competitors who all fell back on some strong points." The CGE claims two and is now assembling all its forces around them: Energy and transportation on the one hand, telecommunications and business communications on the other. In 1982 these two trades represented 65 percent of the group's international business. This year it has arrived at around 90 percent. The sum total of the holding company's earnings will in future have a more precise industrial meaning. The CGE has definitely turned its back on the temptation to become a conglomerate.

It is by no means an easy matter to fight electrical and electronic engineers at the same time. Like General Electric and Hitachi, the group constructs locomotives and turbo-alternators. Like IBM or AT & T it is interested in unit automatic exchanges, office automation and software. In France the situation has been definitely simplified with the take-over of Thomson Telecommunication, and the CGE is in a position of strength on the eve

of the inevitable serious negotiations with Emprat-Schneider, its main competitor (currently in difficulties). At the same time the CSE senior staff is not so naive as to believe the company sufficiently equipped for conquering the world market.

Depending on whether we look at the situation from Paris, New York or Tokyo, the "Gulliver CSE" strikingly demonstrates the gap between French industry and industry in the major industrialized countries.

At around Fr 78 billion revenues in 1984 (the Fr 61.4 billion of 1983 did not include Thomson Telecommunications), the CSE is currently the fifth largest French industrial group, behind CFP (French Petroleum Company), Elf-Aquitaine, Renault and Peugeot. It is the third largest employer (170,000 staff, including Thomson Telecommunications) and the third largest investor in research and development. It earns the third largest industrial profits (behind Elf-Aquitaine, IBM France, Air Liquide and BSN).

#### Competitors Who "Stagger" Under the Weight of Their Profits

A giant in the French context, CSE already counts for less on the European scale, where it needs to be satisfied with 23rd place in various business ranks (eighth, Philips ninth). As for international rankings, it is not even represented in the first 50 (though IBM, General Electric, CII, Hughes, Siemens, Matsushita and Hitachi are all placed there).

More worrying, though, is the disproportion in profitability. Considered sound in France with a roughly 1 percent profit margin, CSE has competitors who stagger under the weight of their profits. In 1983, General Electric earned some Fr 16 billion net profits, IBM Fr 41 billion. Georges Pereau likes to say that "At a 1 percent could purchase three CII-Alcatel each month from its net profits after taxes, General Electric and Alcatel-Alenia".

CSE directors are mindful of all these figures. They are quite aware that, in the eyes of international decisionmakers, the companies of the CSE group rank in the class of the "medium powers" like Ericsson or Philips for telephones, Gould or Allen Bradley for computer-integrated manufacturing, Asea or Brown Boveri for electrical engineering, all of which seek to compensate their limited financial resources by extra flexibility and innovation.

CSE's "medium power" ranking does not prevent it from holding some prestigious positions. On four large-scale markets it does indeed count among the world leaders:

- Power plants: Third internationally, behind only General Electric and Westinghouse;
- Railway engines: Third internationally, behind General Electric and General Motors;

-- Public telecommunications and some of their extensions (PABX, mail handling, software, and so on): Fifth internationally, behind AT & T, ITT, Siemens and Nippon Electric;

-- Cables: Second internationally, behind Pirelli.

#### The Handicap: Lack of an International Image

To increase or at least hold on to its sections of the market, the companies of the group must be able to rely on strong logistics. Despite its many foreign contacts, CGE actually suffers from its inadequate industrial presence outside France.

Twenty-seven billion of its Fr 62.4 billion consolidated 1983 earnings (40 percent) were realized outside France. Three quarters of these sales concerned equipment made in France and distributed by the CGE-Alsthom International network. The fourth quarter (less than Fr 7 billion) was actually manufactured abroad.

President Jean-Pierre Brunet comments: "We must acknowledge that CGE is not yet a multinational group. It is present on all markets but has not been able to develop enough strongholds outside Europe. Nor should we be satisfied with the distribution of sales. The group does not score best in the industrialized countries. That is why we must quickly insinuate ourselves in the breaches opened up by deregulation of any kind."

In the United States, CGE subsidiaries have up to now operated in a somewhat haphazard manner; total earnings amount to only Fr 2.5 billion. CGE's sole major industrial establishment outside France is the German Kabelmetall subsidiary of Cables de Lyon.

Jean-Pierre Brunet mentions another CGE disadvantage: Its lack of an international image. The names Alsthom-Atlantique, Alcatel or Cables de Lyon are better known among international businessmen than the name of the parent company which has a tradition of discretion and secrecy. "It is enough just to disembark at any major international airport to be confronted with the advertising signs of Siemens and Philips. Until lately the head office directors were not bothered by any of this. Now that they are preparing offensives on decompartmentalized markets, they appreciate the inconvenient aspects of anonymity. CGE will have to learn to deal directly with the bankers, the graduates of the major business schools, the scientists and senior officials of foreign countries. A serious problem, and even more redoubtable because its name--Compagnie Generale d'Electricite--is easily confused with that of the English and American General Electric.

CGE's new humility and the healthy appraisal of its strengths and weaknesses is certainly the best indication of the firm's transformation. Public opinion believes it to be comfortably installed in the shade of its French monopolies (the Thomson-CGE accord on telephones has been considered a blow to the PTT). In actual fact CGE is undergoing the biggest shake-up in its history.

## A New Role of Intermediary With the Public Powers

Oddly enough, just at the time the company was nationalized, its share of government orders began to decrease. This decline appears irreversible considering the poor prospects for the growth of the gross national product and the high rate of French equipment with electronic switching, electric power plants and railway materiel. Ten years ago, government orders represented more than 40 percent of the group's total sales. This year's figure is 25 percent. The state as customer will gradually recede, but it will continue to provide CGE with the most valuable of commercial trump cards: References. (87 ultra-fast trains on the Paris-Lyon route; the entire equipment for Electricite de France's nuclear power plants, more than 100 digital E 10 telephone exchanges in service at the PIT, and so on).

The pull away from domestic ease is the work of a handful of men, all around 50, recruited not long ago by Ambroise Roux and retained by the nationalizing authority. The majority came from the large groups and tended to welcome the advent of the state as the boss. Half liberals, half technocrats, they all consider themselves entrepreneurs. Hard-headed businessmen, they constitute an informal executive council around Georges Pebereau. Each one represents one of the major group subsidiaries and fiercely defends his territory. For instance Jean-Pierre Desgeorges, marine engineer, 54, president and director general of Alsthom-Atlantique, does not in the least care for any interference in the affairs of his electro-mechanical and naval shipbuilding conglomerate (50,000 employees, Fr 22 billion earnings). Pierre Suard, civil engineer, 50, is the hard-fisted boss of the excellent Cables de Lyon. Georges-Christian Chazot, Harvard graduate, 44, is using American methods at Saft and succeeding rather well. Francois de Laage de Meux, Central College and MIT, 55, presides over the General Electrical Equipment Company (CGEE)-Alsthom, although he is working out of head office (controlling the international company from there).

Jean-Pierre Brunet, former diplomat and surprise successor to Ambroise Roux in 1982, is said to have finally succeeded in imposing his presidential authority on this free-for-all of proconsuls. Actually, ever since his arrival, he and Georges Pebereau have skilfully divided their tasks between them. In any case, the thorough rearrangement of the holding company obviously met the wishes of the state-stockholder.

CGE has not changed in its essentials: It continues a coalition of autonomous companies coordinated by a lean holding company (300 people directing a total of 170,000).

How has nationalization changed the state of affairs? Pierre Bilger, young financial inspector, recruited by Georges Pebereau to assume the financial management, explains the expansion of the corporation's job: "CGE continues to maintain with its subsidiaries the relations of a majority stockholder, but nationalization has assigned it a new role of intermediary with the public powers. This reinforces internal solidarity. Furthermore, a directorate of social affairs has been established, and planning and checking procedures

were perfected." The dialogue between the holding company and its subsidiaries deals at one and the same time with figures, people and industrial strategy.

-- The figures. CGE operates with a five-year plan, revised every third year and, from now on, spelled out with the operating contract required by the state. Following the highly formalized preparation of the budgets at year's end, its budgetary checks permit the holding company to trace the progress of the subsidiaries by way of simple indicators and month by month.

Now as always the corporation is watching over the profitability of its capital investments. An internal audit service made up of a dozen experts--an old-established institution at CGE--permanently makes the rounds of the group's companies and turns out detailed account analyses. In case of a financial mishaps, the corporation makes up the loss (the subsidiaries never have recourse to Ciri). In the case of a reorganization, it waits as long as necessary for the realization of medium-range plans. This year, for example, Friden Alcatel (fighting Pitney-Bowes in the United States for the franking machine market) has finally recovered after 3 years of losses. On the other hand, CEAc and Ceraver are still badly in the red.

-- The people. That is the sensitive job of Dominique Balmay, the first director of social affairs in CGE's history (lured from the Ministry of Social Affairs). "Until 1982, the corporation exercised a purely strategic function," he explains. "It dealt with matters of policy. All multinationals are now finding out that the social function has turned strategic. It was thus necessary for CGE to concern itself with it also, particularly because it needed to help the subsidiaries to familiarize themselves with the Auroux legislation." Entirely functional, the social nucleus developed by Dominique Balmay endeavors to provide a frame of reference for the group companies. In February 1983, a group committee was set up to simultaneously promote a social and an economic dialogue. Training policy has been completely revamped, and head office has carefully directed the preparations for the elections to the board of directors (18 subsidiaries are involved this year; 35 will be next year); 120,000 voters were mobilized).

In fact the establishment of a directorate of social affairs has improved relations with the trade unions in the major subsidiaries. Social tensions have relaxed. "I am amazed by the growing interest of the labor unionists in the strategic and development problems of the firm," notes Dominique Balmay who opened the holy of holies in rue Boetie to the representatives of the personnel and to the unionists.

-- The laboratories. Each subsidiary has its researchers, but the corporation invests about 100 million annually in the central laboratory at Marcoussis (also cofinanced by the group companies or outside organizations). Around 350 research staff work there on programs coordinated by Laurent Citti, development director. Oriented in particular to lasers, electrochemistry, superconductivity, fiber optics and computer science, Marcoussis is one

of the three major electronic laboratories the others being Corbeville (Thomson) and LEP (Philips).

--The factories. Paul de Buyer, Central College, former boss of Chausson, has been deputy director general of CGE since the beginning of this year and is responsible for "national industrial matters" (he is also president of Ceraver). Georges Pebereau has entrusted him with a mission that inspires many misgivings among the senior executives: To propose a system of industrial policy. In other words, he is to investigate the possible synergies among the various group companies. This is a ticklish assignment, and he endeavors to carry it out without treading on anyone's toes and avoiding any semblance of interference. "At CGE, negotiation must always rank before authoritarian arguments," he says prudently. "My job is that of persuasion. Due to nationalization, the corporation has been transformed from a financial holding company to a more industrial-minded holding company. We must accept the consequences."

This is how the "computer-integrated manufacturing plan" was born, the first horizontal strategic initiative of the corporation. It is an attempt at the instruction of the parent corporation to assemble several subsidiaries around a program of action. This is a program close to the heart of Georges Pebereau. It involves Alsthom-Atlantique (which boasts sound competence in robotics), CGEE-Alsthom (continuous processing), Compagnie Generale d'Automatisme (computer-aided design, computer-aided design and manufacturing), Cilas (lasers) and GSI (expert systems). In the face of Renault, the present French leader, CGE affirms its intention to conquer 5 percent of the world market. Will it succeed in persuading the directorates of the most fiercely independent subsidiaries. "CGE does not have the authority to impose a horizontal policy," firmly says Jean-Pierre Desgeorges who, incidentally, is deeply committed to the CGE coalition. "It is not made to command. The centers of movement and command are located in the companies."

#### Proving Its Industrial Legitimacy

It seems, therefore, that an internal debate is beginning in CGE. Should the holding company's powers of instruction be reinforced, or should the tradition of decentralization be defended at any price. Nationalization evidently stimulates the centripetal forces. "We are halfway between two opposing systems," notes Jean-Pierre Brunet. On the one hand dispersed entities as in Japan. On the other highly integrated groups in the manner of IBM or General Electric. United Technologies is probably nearest to the CGE model. The reinforcement of the synergies--already quite strong if you look at the links between CIT-Alcatel-Cables de Lyon or the many instances of cooperation between Alsthom and CGEE--does not seem to me incompatible with the group's traditions."

Eighty-six years after its establishment, 2 years after its integration in the public sector, CGE discovers that it has not yet completely resolved the problem of industrial "legitimacy." It needs to find its balance between the "too distant" and the "too near" of the subsidiaries. The

particular details of central engineering and electronics offers it an opportunity to find leading the unity. The future look of the CGE association of firms primarily depends on the success or failure of the group with regard to computer-mediated manufacturing.

#### Index: The Status of the Alcatel-Thomson Marriage

Will Alcatel-Thomson be able to replicate the "EID coup." Can the entity that issued from the marriage of the two French telephone manufacturers repeat in the future telecommunication sector the performances achieved separately with respect to time-division switching exchanges. That is the key issue in the 1991 Eiderman-Jones agreement. The telecommunications of the year 2000 are governed by the need to offer new telematic services. These services will have to be integrated in a single network. Twenty years from now, the telephone, data transmissions, telefax, telecopying, video images and videotex will have to be transmitted by the same cables and the same exchanges. This is a project that was given the name Digital Network for the Integration of Services (DNIS) and will be preceded by a transitional stage: Network Integrating Telephony and Data (NITD). A major responsibility for Alcatel-Thomson Development, the joint facility for research of future networks and established in late 1981 at Lannion according to the terms of the agreements signed by Georges Eiderman and John Jones. The regrouping of CGE and Thomson research facilities was the result that could be done in view of the possible loss of time and the costs involved in the conception and practical realization of the projects for integrated communications. All the more, because France is about to equip itself with a brand new time-switching network (a field in which, internationally, it is far from being first rank), which will have to be amortized, and with which the NITD and later DNIS will have to be compatible. The technical effort will still have to be resolutely pursued so as to as best possible precisely define the universality of goals before the end of the 1980's. It is an effort to illustrate the importance of the problems on the "overestimate" of the costs of research and development (CGE estimated them at 41 billion) for a new generation of time-division exchanges. "A million dollars was the cost of the entire EID line," explains Jacques Barad, deputy director general of CIT-Alcatel.

#### Radiofrequency: Surge on the Threshold

Will Alcatel-Thomson and Siemens cooperate in telecommunications. With NITD in waiting Thomson and CGE. While a paradox, it is quite true that the pact between the two French companies has forced the Netherlander and the German to unite for the sake of the project of the 2 GGS cellular radiotelephone.

This project had been jointly initiated by the Federal German Post Office and the French PTT who asked for bids from the Franco-German syndicates. TSB was associated with NTKAG, the Philips subsidiary in the FRG, while Thomson, for its part, allied itself with Siemens.

Now the two French corporations have joined together and caused the two other companies to ally in order at a single effort. Jacques Barmon, director of Thomson Telecommunications, explains that "this has not resulted in any special alliance. The four companies were divided up the bids in accordance with their

particular expertise." At CIT-Alcatel and Siemens communication centers; at Thomson, Siemens and Philips portable telephones and fixed radio installations. A formidable European quartet with a considerable technological potential has thus arisen in the wake of the French-French pact, a quartet that now affirms its ambitions for conquering a dominant part of the international market for radiotelephones (\$2.5 billion for mobile circuits and \$2 billion for switching in 1990).

The Major Companies of the Group in 1983  
Earnings of the 23 Main Subsidiaries (million francs)

Electrical Engineering and Marine Construction

Alsthom-Atlantique	15,497.7
Stein Industrie	1,232.1
CEM	1,880.0
CIMT-Lorraine	428.0

Electric Construction

CGEE-Alsthom	6,930.4
Comsip Entreprise	960.4

Telecommunications and Data Processing

CIT-Alcatel	5,739.1
Telic-Alcatel	928.0
SMH-Alcatel	775.9
HBS	583.3
Roneo-Alcatel	834.7
CGA-Alcatel	480.1
GSI-Alcatel	967.8
Sesa	433.7

Cables

Cables de Lyon	2,453.0
Laminoirs, Trefileries, Cableries de Lens	1,237.7
Kabelmetall Electro GmbH	2,467.5

Batteries and Storage Batteries

Saft	795.5
Gipelec	865.0
CEAc	1,053.9

Materials, Trade

Ceraver	496.5
Le Joint Français	354.3
CIE Distribution	1,500.9

The CGE Dashboard  
Resources and Operations  
(million francs)

	1980	1981	1982	1982(1)	1983	Total
					Full sub- sidiaries	Affili- ated
Total after-tax earnings	45,782	56,659	65,788	54,879	57,435	5,029
Earnings abroad	14,103	19,199	26,563	23,048	23,930	351
Total after-tax orders	51,286	64,698	81,222	71,034	57,067	5,130
Orders abroad	17,943	25,800	38,360	34,329	25,320	471
Order book	60,718	71,161	89,226	78,161	78,921	49*
Foreign order book	26,908	35,000	47,824	40,504	42,109	470
Industrial investments	1,503	1,881	2,265	1,691	1,990*	70*
Research and development costs (personnel figures)	1,630	2,030	2,420		2,755	5*
Manpower listed on 31 Dec	179,630	180,390	192,200	153,360	141,000	6,200

(1) 1983 structure (except for RTP). \* Estimated. In view of the major structural modifications within the group in the course of 1983, the figures for the 1983 financial year are not directly comparable with those for earlier years. The total of manpower listed amounts to 170,000 including Thomson.

The Consolidated Results  
(million francs)

	1978	1979	1980	1981	1981*	1982*
Net profits	417	455	557	584	514	600
On the part of the group	254	312	404	403	34	3
On the part of third parties	161	143	153	181	174	196
Net cash flow	1,198	1,259	2,121	2,215	1,994	2,363
Net income per share (for the group)	44.66	53.00	57.35	56.92	48.10	56.10

\*New method of computation: From 1982 on CGE has changed the method of consolidation, adopting more restrictive criteria. Moreover, the result is computed on different bases (according to company size and new methods of processing excess values and surpluses and deficits).

## BRIEFS

**THOMSON SYSTEM FOR INDIA**--The nationalized French Thomson group is negotiating for the furnishing of a \$70-million telecommunications system for a 1,700-km-long Indian gas pipeline. The French government is providing backing for Thomson's proposals in the form of an advantageous credit offer, according to the daily FINANCIAL EXPRESS. Thomson-CSF (Thomson-General Wireless Company) is prepared to undertake this operation with imported French equipment or jointly with Indian firms. A delegation of the group is negotiating with several official representatives for this gas pipeline project, which comes under the Indian Commission for Oil and Natural Gas. This pipeline, the total cost of which is estimated at \$1.7 billion, will deliver 70 million cubic meters of gas per day for 20 years, from the offshore deposits in the southern part of the country to six future fertilizer plants. In Paris, the Thomson group, for its part, acknowledges having carried out a prospecting operation involving technicians and marketing experts, but states that the talks have not yet reached the stage of concrete proposals. [Text] [Paris LES ECHOS in French 11 May 84 p 8] 923d

**TDF MOBILE RELAY STATION**--In Paris, on Friday, TDF (TELEDIFFUSION DE FRANCE) introduced the first mobile transmitting station designed to relay remotely televised pickups to any point whatever in France via telecommunications satellite of the ECS or Telecom 1 types. This compact unit, weighing 2.5 tons, consists of a rotatable parabolic antenna mounted on a trailer equipped with a cabin that houses electronic equipment. Two technicians can set it up in about one-half hour. The first prototype was designed and built under the prime contractorship of the French Center for Television Broadcast Studies and Research in cooperation with several French firms (Thomson-CSF, AMP [expansion unknown], ERCA [expansion unknown] and SNEC [expansion unknown]). This equipment, when coupled to a remote-jackup broadcasting van will eliminate the very numerous terrestrial microwave relay links that are presently required to transmit video directly to the production center. It could be tested "live" for the first time during the forthcoming Tour de France. [Text] [Paris LES ECHOS in French 21 May 84 p 8] 923d

## PROPOSED TELEMATICS POLICY, RESEARCH, DEVELOPMENT

Rome POSTE E TELECOMUNICAZIONI in Italian Jan-Feb 84 pp 50-57

[Text] This is a summary of the proposals drafted by ANIE  
[National Association for Electrical Engineering and  
Electronic Industries]--Electronics Group.

## Objectives of a Telematics Development Policy

Here are the objectives which are considered to be indispensable in order to ensure in Italy likewise an adequate development policy for this sector and consequently to prevent the technology gap between the domestic industry and the industry of the more advanced countries to assume such dimensions as will make it difficult to catch up:

Improvement of domestic industry's competitiveness both on the domestic market and on the foreign markets by overcoming weak points and conditions that spring from the current situation in this sector;

Increase in the efficiency of public administration;

Increase in the operational capacity of the country's economic and industrial structures and elevation of the nation's general living standard through the implementation of new services for "business" users and for private users.

## National Supply Structure: Positive Elements and Critical Aspects

The situation of the domestic electronics industry, which, in the near future, will be committed to the planning, construction, and installation of telematics products, is characterized by a manufacturing structure which is quite considerable, both by virtue of the number of companies and the occupation levels, as well as by a financial situation in which the domestic capital component is undoubtedly significant. We must furthermore note that the profound experience of the companies in the current electronics sector, acquired over many decades of activity, made it possible to have qualified know-how available in various departments, such as communications, transmission, data processing, components, and terminals.

The current size of the industrial plants and applied research laboratories can also be considered comparable to those of the other industrialized European nations in terms of quality.

This brief review of the positive elements characterizing the situation of the country's electronics industry in the nascent sector of telematics cannot be divorced from a careful examination of its critical aspects both in cyclic and in structural terms.

The most salient points can be summarized as follows in this context:

#### Positive Elements but also Critical Aspects to be Overcome with New Strategies

(a) Redimensioning of production structures in the specific sector of telephony due to the manpower surplus. On the basis of lessons learned in other foreign establishments, we can expect that, within the context of public and private communications systems, technological conversion will bring about a direct manpower reduction amounting to 60 and 70 percent per product unit.

In the other departments, moreover (transmission, terminals, radio and television, etc.), a direct manpower reduction of about 40 percent per product unit will be taking place during the next decade.

In the light of what we have just said, one may well think that there will be a total personnel surplus of about 30,000-35,000 in the domestic telecommunications industry by the end of the 1980's, coinciding with the completion of the technological conversion process.

(b) Technical adaptation of personnel caused by the enrichment of the content of professional skills deriving from technological evolution. The average qualitative comparison of the labor force in the telecommunications industry will undergo the following variations on the basis of studies conducted on an international scale:

	Electromechanical Engineering	Electronic Engineering
College Graduates	5%	15%
Technicians	20%	35%
Workers	70%	50%

(c) Transformation of production plants, still looking at the specific sectors of telephony and radio-television, in an effort to adapt them to requirements springing from the achievements of new techniques: obsolescence of current plants and construction of new production lines with a high degree of automation.

(d) Broad differentiation of product areas in distributed data processing operations and office automation which, although it enables us more easily to grasp the various opportunities offered on the market, nevertheless does call for a major commitment in a broad product range.

(e) Insufficient active component capacity on the part of domestic industry, needed to meet the requirements of the domestic market, consequently increasing dependence on foreign suppliers delivering products to the domestic systems industry.

(f) Delays in making decisions regarding the introduction of new services and absence of government support policies and public promotion of sector development, contrary to what is being done in the other European countries.

The guidelines for a strategic telematics policy decision must take into account the standards outlined earlier in order to work out a correction of the critical aspects in the nation's industry and to try to improve its competitiveness on the domestic and international levels. Thus locating the current critical elements: government support for the development of the domestic electronics industry, in general terms, and the indispensable link between the technological development of the telecommunications, data processing, terminal, and component industries thus represent an aspect--and of course a strategical one--cannot be overlooked if one wishes to maintain and raise the competitiveness level of the national product.

Public support for the activities, which must be adjusted to the financial commitment which industry must make in order to work out and consolidate a technological autonomy of its own, is one of the aspects that most influences the actual possibilities of achieving the necessary competitiveness in terms of quality and products which is indispensable as well to enable the enterprises to achieve concrete participation on domestic and foreign markets.

In the light of what we have said so far--as regards the situation and the guidelines--we say that the strategies that must be implemented on the supply side can be summarized as follows:

definition of an investment program by the Ministry of Posts and Telecommunications, aimed at the development of new techniques and new telematics services for the purpose of establishing a progress in competitiveness in terms of costs and product supply.

We must furthermore endeavor to avoid any uncertainties, within a long-range program, the maintenance of the continuity of supplies at least for the short run (about 1 year) through the effort to provide timely information on possible variations.

adoption of technical choices and of care of implementing the necessary measures and drafting of pertinent standards for the public managers for the telematics sector so as to guarantee continuity of industrial development, thus bringing about an increase in participation both on the domestic market and the foreign market. In this context it will be necessary to update the procedures of telecommunications and telematics products standardization also in the light of the coordination process now underway in Europe.

Qualitative upgrading of domestic production facilities: factories, labor force and plants.

Increase in the percentage of value added to the national output, production agreements between industries in the sector and will help in the integration of know-how and in rationalizing research and development expenditures.

#### Market Structure in Italy

The potential market for telematics products is undoubtedly an irregular market which is characterized by a considerable fragmentation of consumers and producers, a market where more importance will be assigned to the small business user and the domestic user.

It is therefore very difficult to come up with an sufficiently accurate quantitative estimates; anybody who tried that was really disappointed.

From a qualitative viewpoint we can however say that the potential demand in Italy likewise appears to be sufficiently high: as a matter of fact, looking at general telephone users as one of the potential users for the development of telematics, we find that, as of 31 December 1981, there were about 7,171,000 telephone sets in use in the "peninsula"; of these 4,400,000 sets constitute the "business" users whose natural field of application is represented by firms and companies with the various economic sectors.

The high potential demand level which characterizes the telematics sector is also mirrored in the development of data users: according to the "Telecommunications Plan," drafted for the Ministry of Post and Telecommunications, a variation in the number of modems for data communication from 6,500 to 130,000 units, corresponding to an average annual increase of 14 percent is expected for the period of 1981-1990.

According to the EURODATA study pertaining to the development of data terminals, we finally come up with an estimated increase in the number of installed terminals from about 100,000 at the end of 1973 to 250,000 in 1986.

Although one cannot make any estimates in the domestic terminal sector, we may nevertheless assume that the potential user base would consist of the entire group of telephone and/or television users.

As regards the demand sector, we must furthermore not restrict the examination to its quantitative aspect, that is to say, the aspect dealing with the broad dissemination and use of the new telematics services in the Italian economic system, but we must also take into consideration its qualitative aspect so as to ensure the best orientation for the market.

#### New Strategies in Light of Italian Scenario also Supported by Public Effort

The strategies pertaining to the demand can therefore be summarized as follows:

Identify the user requirements around which to coordinate the programs of the nation's industry in this sector;

speed up and standardize the dissemination of new telematics services at the user end;

in the public administration, use the possibilities offered by the availability of new telematic services for the purpose of relieving the situation of the government administrations;

focus on the enhancement of the public telecommunications networks which however are of great strategic importance in their capacity as elements that are to drive the development and boosting of the evolution of telematics.

In summary, the overall and complex strategic picture we must finally keep in mind that the Italian scenario, as has been hardening is almost all of the more complex will be to undergoing profound changes which, over the next several years, will greatly influence the market setup and which will cause companies involved in production structures which must be adapted to the market.

(2) (Public Administration) (Public Administration)

Focus on strategic evolution of the demand of the public telecommunications lines and on various factors of the rapid rise of new demands, because of the availability of new technologies suitable for meeting such demands, and the role of the government suppliers. In various industrialized countries there is no doubt of the emergence of certain trend toward limiting—

for the sake of the users, of the manufacturing industry, and of the managing agencies themselves--those activities which are carried out under a monopoly system to the management of basic telecommunications structures, while the user equipment and the added-value telecommunications services (new telematics services) will tend toward being offered under a free-enterprise [free-market] system;

Opening of public supply markets for the telecommunications and telematics sectors within the context of the Common Market and among countries linked by the GATT agreements, with significant priority being given to the terminals.

#### Action Instruments for Implementation of Telematics Development Plan

On the basis of what we said in the preceding paragraphs as regards the pursuit of the objects outlined, it is now necessary to define a series of action instruments tied together within a national sector plan, aimed at boosting the manufacturing industry operating on national territory.

Without early and adequate support on the part of the government--which is indispensable also because of the sector's political significance and because of the necessary investment volume--there is a great probability that, by the end of the 1980's, a large part of the professional products for the telematics market will be imported or, at best, will also be produced in Italy on a foreign license basis, to the practical exclusion of the nation's industry from that market.

To counteract this trend it is necessary for the political establishment to take steps urgently, with foresight and energy through three types of support efforts aimed at the following:

- (1) Adjust the basic structure and services;
- (2) Promote production development;
- (3) Support the research and development sectors.

(1) Public action aimed at rapid and progressive adaptation of existing network to the new services all the way to the implementation of the ISDN (integrated digital network) and for the expansion and modernization of the broadcasting facilities of RAI [Italian Radio-television].

This action must be aimed at two objectives to be attained simultaneously: the expansion of the current telephone network and the gradual, progressive

introduction of electronic techniques by way of substitution of electro-mechanical techniques.

An initial response to these requirements as regards the telephone network was given in the "National Plan for the Development and Strengthening of the Telecommunications Services," which was prepared by the Ministry of Posts and Telecommunications in January 1982 and which was approved by the CIPE [Interministerial Committee for Economic Planning] in March of that same year.

This plan has been the target of criticisms by various organizations because it does not clearly state what the social or political motivations behind its formulation are. But that is not a matter that is of interest to industry; as far as industry is concerned, the plan represents a political-industrial "commitment" which the country takes upon itself.

The considerations which industry feels authorized to entertain on this matter are not to be understood as criticisms but rather as requests for the further in-depth development of some aspects of a strictly industrial nature.

We must above all note the slow pace of the initial takeoff: in practice, we are assuming that it will take 10 years to achieve 100 percent electronics production. This rhythm is considered to be rather tough on investments. It furthermore seems absolutely uneconomical to keep remnants of electro-mechanical production beyond 1988. According to opinion prevailing in industry, that year should coincide with the attainment of the 100-percent electronic production line production and installation target.

#### Completion of Electronics Engineering--Urgent Support Action for Component Industry

Looking, for example, at the table included by way of assumption in the Plan of the Ministry of Posts, the scope and distribution among electromechanical production lines and electronics production lines should be as follows in the opinion of the ANIE (in terms of 1,000 lines).

Years	83	84	85	86	87	88	89
% of total lines	16	30	50	80	95	100	100
Supplies	1,000	1,100	1,200	1,300	1,400	1,500	1,500
Electronics lines	160	350	600	1,000	1,300	1,500	1,500
Electromechanical lines	840	750	600	300	100	--	-
Users	880	900	900	1,000	1,000	1,000	1,000
Substitution	120	200	300	300	400	500	500

This type of development also offers the advantage of giving industry certain "references" on national territory, in 1984 and 1985, as regards the lines to be installed and also for the purpose of activities abroad; these years are the most important years for exports since they are the years during which the decisions of the biggest telephone system importing countries will be finalized. The rate of replacement of old electromechanical production lines with new electronics production lines will furthermore be speeded up; this is the main contribution which telephony can make to the development of telematics.

In its current form, the plan does implement a program of substitutions but is essentially aimed at meeting the increase in the number of users, rather than switching the big urban centers entirely to electronics operation; in those centers, electronics technology could--thanks to the possibility of combining the twin (urban and inter-city) function into a single switch--permit major savings in terms of investments and considerable advantages in terms of accelerated industrial development.

The attainment of the first objective within a reasonable time frame (6-8 years) would permit the development of the network in harmony with the current user requirements and with the average growth rate of the traditional telephone systems as ascertained in Europe and all over the world, also in relation to the average telephone penetration coefficient achieved in the other industrial countries; this in turn would be a solid potential base for the development of telematics users; finally, with the resumption of the production volumes achieved during the period of 1970-1974, this would enable the manufacturing industry to tackle the technological transformation process under less unfavorable conditions, especially as regards the maintenance of employment levels.

Furthermore, an accelerated program for the introduction of new techniques into the public network would make it possible to implement the natural defense of companies operating on national territory by allowing them to acquire a body of experience in the analysis, definition, construction, and installation of new systems so as to create the premise for their enhanced competitive capacity both in the European context and on an international level. It is also necessary, in drafting the technical standards, while abiding by the characteristics of the national network, properly to take into account the demand for the exportability of products.

In this context it finally appears indispensable to carry out a specific support effort with respect to the national component industry which, in addition to facilitating its revival, would promote a close link between the component-building enterprises and the equipment and systems manufacturing companies.

As regards the development of new telematics services likewise, public action will determine industrial activities both on the domestic market and on the international market.

It is as a matter of fact necessary urgently to work out a clear and precise standard that would cover all aspects, such as, for example, applicable rates, authority and limitations of management agencies, specific techniques regarding the compatibility required in the user's terminal products as well as well-founded plans for the introduction of services, based on realistic market prospects, both as regards the initial experimentation phase and the actual operational phase.

In particular, as regards the standards for the improvement of user instruments, it is indispensable to seek a substantial modification of methods currently employed; these are methods which are no longer in keeping with the rate of technological development on the market. This modification will furthermore have to bring about conditions of reciprocity in the area of the European Community, conditions which currently do not exist.

Only under these conditions can the nation's industry effectively and at the right time launch the production effort and be present on the domestic and international markets under the same conditions as foreign manufacturers who derive advantage from the fact that these public services have been operational in their countries for quite some time.

The mistake made at the time in selecting the color television system in Italy must absolutely not be repeated.

(2) Urgent establishment, within the Ministry of Posts and Telecommunications, of a permanent planning, coordinating, and control body for the entire sector and for all public and private management agencies. The 24 March 1982 resolution of the CIPE for the first time tackles the problem of the rationalization of telecommunications management in Italy by dividing the responsibility for managing these networks and the new telematics services between the Posts and Telecommunications Administration and the SIP [Italian Telephone Company].

Complete Monopoly? Controlled Liberalization? Critical Analysis Needed

The decision, although understandable in political terms, does not seem to us to be sufficiently clear when it comes to ensuring, in an organizational manner, the solution of all problems related to the development of this important sector.

The central point of the problem as a matter of fact does not consist in the decision as to whether this should be the responsibility of one or the other public managers or the implementation and management of one service or the other; instead, it resides in the need for critically analyzing whether the method of complete monopoly, which has been in effect in Italy for all of the telecommunications services, is still valid for the national community.

In this respect, the world of industry shares the ideas advocated by several quarters, according to which the situation is now quite ready for launching--in line with what is happening in other countries--a process of "controlled" removal of controls; there is fear that any delay in this direction could inflict irreparable damage to the sector's national development, instead helping industries operating in those countries that acted in time.

Therefore, given the importance of the telecommunications and telematics sectors today in the context of the national economy--an importance which is becoming even greater if we consider future prospects--we conclude that we can no longer afford to postpone these highly strategic decisions.

Technological development pointed to the removal of controls over the telecommunications services as the way we have to go in order to move on toward economic growth. It is therefore a good idea to accept the situation such as it is and to the extent possible to move ahead of the times so as to be able to control the phenomenon and so as not to be swept away by events; one could run the risk of having to tackle forms of rather wild control-lifting quite unexpectedly, as happened already in the sector of radio and television.

A first indispensable step in that direction consists of restricting the public monopoly on the management of "basic" services, providing incentives for free competition for the rest and in particular for the supply and maintenance of all terminal instruments installed at the user end and for the supply of special services "with added value."

This would in particular yield the following advantages:

Users, who could develop their own applications and new services, selecting the best solution among those available on the market;

Builders who, to meet user demands, would be given an incentive to produce products that would be ever more competitive on a rapidly growing market;

The public managers who--relieved of the burden of being responsible for all development--could concentrate on putting up all of the structures and basic services without any delays, thus realizing a greater return along with the better satisfaction of the growing demand for services.

To the extent that the managers themselves would want to supply also added value services, terminal user equipment, and provide maintenance for such equipment, they should be authorized to do so within the rules of fair competition. This means that the adopted rates should be based exclusively on costs arising from practical implementation and management of the individual services, plus a reasonable profit to permit the pertinent investments.

The problem of setting this entire system up must also be tackled and solved urgently; the definition of the roles and competence of the individual managers is undoubtedly an essential prerequisite so that they may be able to accomplish the assigned tasks with optimum efficiency and economy.

We must keep in mind that the solution selected here must not bring about an excessive concentration of "power," with the risk of accentuating the monopoly, to the greater detriment of the users and the builders. It therefore appears necessary to introduce those monopoly-restricting steps that will be based on the concept of the removal of controls for special services and user equipment stated earlier.

#### Research and Development Activities Supported by Planning Body

We therefore believe that it is opportune also in Italy--as has already been done in many industrialized countries--to spell out development programs and to proceed to the relative planning of investments, technical decisions, standardizing and administrative activities, and finally the coordination of the demand and supply in the public sector; all this should be entrusted to a single agency within the Ministry of Posts and Telecommunications, with the mission of coordinating, in concert with all of the components involved--the development of a sector which is of vital importance because of the volume of investments, because of its significance in terms of employment, and because of the entire country's technological progress.

In particular, the planning effort for the expansion and modernization of the telephone network and the other telecommunications networks, with specific emphasis on the radio broadcasting network for which there are no national suppliers at this time, along with the start of operation of the new services, should be concentrated between this body and the manufacturing companies operating on national territory which, by virtue of their size, their innovative structures, their practical implementation

capacities, would provide sufficient guarantees for being able to maintain and/or win significant positions on the market.

It is also evident that, for the sake of the correct implementation of these programs, they have to be revised periodically in the light of the reciprocal conditions existing between the intrinsic contents and the national social-economic situation.

Furthermore, the development of systems and of technology presents such contents and characteristics as probably to require the implementation of a policy of agreements and/or collaboration efforts between companies (consortiums and/or production agreements), designed to permit greater competitiveness and a better return on investments through adequate concentration of research and production funds.

The government's commitment to absorb large quantities of products should make it possible to work according to the principles of economy of scale and to achieve cost savings.

National suppliers thus could be protected against foreign competition either through the system knowhow which the companies will have achieved or through the economical aspects of the product offered for sale. During this phase, a wise policy of basic technology acquisition abroad, possibly worked out with other EEC partners on the basis of reciprocity, should be paralleled by a policy of commitment on the part of the industries involved in terms of assembling, in the shortest time possible, a national knowhow pertaining to the technologies involved.

(3) Support for research and development activities, both as regards technologies in which the nation's industry is already competitive, and as regards those which, because of their strategic value, will nevertheless have to be possessed by the supply companies that were selected in advance.

The instrument for this support could once again be placed within the planning body that, in anticipation of the production consortiums, would identify research consortiums opened by a number of companies even larger than the number of companies selected in advance for production. These consortiums could in turn derive advantage from the help offered on a national scale both by the applied research financing laws and by the support facilities provided by suitable finalized projects coming from the CNR [National Research Council]. The requirement for achieving a competitive ratio between service rendered and cost must be upheld rigidly for the sake of the success of the entire program.

In conclusion, the establishment, by the executive branch, of a planning, coordination, and control body will constitute the premise for a structure that will be made up vertically between the Public Administration and the market.

It is easy to anticipate that the implementation of the three types of support indicated above can make it possible:

To limit the process of erosion of the guidance and control activities of the Central Administration;

To increase the efficiency of the technology transfer from the research sector to the production sector and finally to the market;

To provide the requirements for a valid effort to create incentives for capital;

To manage the employment problems which will foreseeably characterize the telecommunications sector over the next several years.

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## NETHERLANDS

### FOKKER TESTS EUROPEAN TELECOMMUNICATIONS SATELLITE

Rotterdam NRC HANDELSBLAD in Dutch 30 May 84 p 11

[Article by Sjoerd van der Werf: "Fokker Tests Big European Telecommunications Satellite"]

[Text] Schipol, 30 May--The so-called static testing of Western Europe's biggest telecommunications satellite, the Olympus, was concluded this week at Fokker's astronautics division at Schipol. The complicated process to which the structural model of the satellite--which is to be launched at the beginning of 1987--was subjected seems to have been crowned with complete success.

#### Solar Panels

Although the structural model--without solar panels and communications systems--only weighs some 230 kg, it seemed capable of withstanding forces like those arising in a launching by Ariane rocket or in a re-entry to earth on board an American space shuttle, which could be the case if the satellite, for whatever reason, cannot be set overboard. There even seemed to still be a decent margin. In a launching by Ariane, forces of roughly 20 tons arise; in a re-entry via space shuttle, roughly 30 tons.

When the limits were exceeded by 150 percent, there didn't seem to be anything wrong with the Ariane procedure. But 47 tons of space-shuttle force did seem a bit too much of a good thing. "Wrinkles" developed in a section of the model, which led to an immediate halt in the tests. If cracks or tears had developed, then the entire further testing--in a short time, the so-called dynamic tests are to begin in Canada, in the course of which, among other things, vibrations at launching will be simulated--would have suffered serious delays and a launching at the beginning of 1987 would have been ruled out.

The testing was resumed only after small reinforcements had been added on the spot. And this time it was a complete success. Representatives of the European Space Agency (ESA) and the British primary contractor BAE [British Aerospace] have now approved the results.

With satellites of the Olympus-type--towards which the Netherlands are contributing roughly 11 percent of the development costs--the participating countries hope to be able to compete with the United States and with countries like France and West Germany that are building their own large communications satellites.

#### Conclusion

The ESA and DAF have come to the conclusion that by the year 2000 roughly 200 satellites of this type will be needed and that 30 of them could be versions of the Olympus. The industrial price of an Olympus satellite is approximately 750 million guilders. England is carrying 37 percent of the project's costs, Italy 35 percent, the Netherlands 11 and Canada 9 percent.

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## AGENCY HOPES NEW EQUIPMENT, CAPACITY WILL AID OSLO PROBLEMS

Oslo AFTENPOSTEN in Norwegian 9 Jun 84 p 3

[Article by Ulf Peter Hellström: "Waiting Time for Dial Tone Causes Irritation; Telecommunications Agency Promises Improvement"]

[Text] "Well, now it's worse than ever!" This reaction from an operator at one of the largest switchboards in Oslo is characteristic of the feeling of a number of telephone users in the Oslo area these days. It can be possible to have to wait for the dial tone for those having to make calls during working hours in downtown Oslo. The ability to get calls through is also not the best. The reason is that the frequent vacation days and days off in May and the approaching summer vacation are creating peaks in telephone communications which are exposing the telephone system to heavy loads. Improvement will come gradually as the total capacity of telephone exchanges is expanded. The big improvements in downtown Oslo will come in 1986, when the first digital telephone exchange is put into service.

How much does it cost the actual community for a telephone user to have to wait 5 or 10 seconds or longer for the dial tone? It is obvious that one of the costs is frustration and irritation, but it is difficult to obtain any economic estimates.

The government building district's switchboard and interoffice exchange constitute one of the large telephone users in Oslo. The director of telecommunications services in the government building district, Per Nørve, relates that the telecommunications service receives a number of complaints from irritated trial lawyers regarding faulty telephones and the absence of a dial tone. When all is said and done, it is often found that there is really not anything wrong.

The government building district hopes the situation will become better when a new digital interoffice exchange is gotten in 1987-88 and when the public telephone system gradually becomes better.

Det norske Veritas (shipping line) in Tromsø also has problems, but first and foremost with getting calls through in the system. There are bottlenecks in the system resulting in the fact that others are having problems in getting through to Veritas. AFTENPOSTEN has been informed.

## Heaviest Load

The Oslo Telephone District is without doubt the area in Norway which is most aware of the load in the telephone system. Information Chief Morten Berner relates that May and June up to Pentecost and the vacation windup are a very busy time, like Christmastime. "Users squeeze their necessary calls in on considerably fewer work days than usually. One of the worst days of all we have is the day before Ascension Day," Berner says.

The Oslo Telephone District conducts regular polls of the ability to get calls through. The polls in April showed that 95.2 out of 100 calls got through, and this figure is characterized as good. The figures for May are not yet available, but the ability to get through will certainly be somewhat lower. In December of last year the ability to get calls through in local communications was, by comparison, 89.6 percent, while in July of last year it was way up to 97.1 percent.

"According to a poll we took in April and May of last year, at the most busy exchanges 94.4 percent of users received a dial tone within five seconds after the user had lifted the receiver. In 97.6 percent of cases, the dial tone came within 10 seconds. We can certainly assume that the situation has hardly been any better since then for these exchanges," Oslo Telephone District Technical Chief Per Wilhelmsen believes.

He adds that most users will notice improvements in the telephone system already this year or next year. Downtown Oslo, which has the heaviest load, will first experience the big improvement from 1986 and further into the 80's. Wilhelmsen says also that the exchanges which have been affected the worst will gradually be expanded or replaced. An example is Sandvika, which got a new exchange in March.

## 4.5 Seconds

Chief Engineer Kristian Bø at the communications planning office of the Telecommunications Directorate says that the rule is that 90 percent of calls should get a dial tone within 4.5 seconds. "Our main impression is that there are not big problems involving the dial tone," Bø believes.

"If businesses and others have problems with the dial tone it can be either due to regular errors, too few lines between the business's internal exchange and the public system, or too little capacity in public exchange," the chief engineer believes.

According to the Oslo Telephone District's annual report, the number of net hookups to the telephone system will increase by 17,000 subscribers during this year. The telephone district will this year use 180 million kroner on automatic exchanges in the telephone system. There are still waiting lists for telephones in the Oslo area, but they will be taken care of by next year. Then the situation will slowly but surely become better, Wilhelmsen predicts.

There is nothing to criticize about the Telecommunications Agency's goal for service capacity: The system is to be dimensioned for the busiest hour of the busiest day of the whole year. However, it takes time to expand the system to such a capacity in the most busy areas. But the service has set itself the goal that the needs of industry are to be satisfied. A problem in downtown Oslo, however, is that the telephone exchanges in this area are not able to keep step with the special demands on the system which this special user's structure involves.

#### Many Want to Talk

That reason that a user can find himself waiting for a dial tone is very simple: A number of units at the telephone exchange send a dial tone to individual sets when the receiver is picked up. It stands to reason that when too many Norwegians want to talk and lift the receiver at the same time there will be a line. In downtown Oslo 20 percent of subscribers must be able to use the telephone at the same time. But the percentage becomes quickly higher on a Friday afternoon or days before major holidays or general vacations. This problem is worst in areas downtown which have 20- and 11- numbers. However, Wilhelmsen says that Oslo is a priority area as far as introduction of the new digital telephone exchanges which the Telecommunications Agency has ordered is concerned. Such a new exchange will be ready for use in two years or so.

The telephone service agency also cannot foresee all changes in subscribers within its areas. An example is Kolbotn, where a large mail order firm was set up. The firm also took orders over the telephone, and this led to certain problems over a certain amount of time for the telephone district. Now the Kolbotn exchange is to be expanded, Wilhelmsen says.

"It is typical that there are those who have cashed in on the frustration and needs of people which the waiting period on the telephone has created, in order to create a new market. I think an example is number relayers and telephone answering machines. Now there is so much technology built into these pieces of equipment that it is possible to have a perfect example of automation, when an automatic number relayer with a recorded message telephones and speaks to an automatic telephone answering machine without the help of people at either end," says Research Director Gudmund Hernes of the Labor Union Movement Center for Research, Reporting and Documentation in Fafo. He points out also how problems with the telephone system are often pushed down the hierarchy of organizations: It is as a rule secretaries who get the job of getting through the telephone system, keeping the appointment book in order, etc.

Hernes suggests also that one should look at the bright side of the situation when the waiting time gets on your nerves: The longer you have to wait on the telephone, the longer time you have to avoid saying something stupid, he believes.

## NORWAY

### BRIEFS

TELEVISION TO SVALBARD VIA SATELLITE--Svalbard will get Norwegian TV. The Storting voted yesterday that Norway is to lease transmission and reception capacity in the ECS satellite system. This capacity is to be used partly for telecommunications purposes (domestic business and data communications) and partly for relaying of NRK's [Norwegian Broadcasting Service's] broadcasts to Svalbard and the oil installations on the shelf. Broadcasts will take place between 1800 and 2400 h from Monday to Friday and between 800 and 2400 h on Saturday and Sunday. However, NRK wanted broadcasts on a 24-hour basis and yesterday the government had to endure criticism from the Labor Party because more had not been done in order to be able to broadcast TV to Svalbard and the oil installations also during the day on weekdays. [Text] [Oslo AFTENPOSTEN in Norwegian 8 Jun 84 p 2] 8985

CSO: 5500/2714

EARTH STATION CONNECTS MACAO TO 47 COUNTRIES

Lisbon O DIA in Portuguese 31 May 84 p 8

[Text] The Portuguese territory of Macao is linked to 47 countries as of yesterday, following the inauguration of a telecommunications earth station.

The project is the result of a partnership between the Portuguese company Radio Marconi, CTT of Macao and a British telecommunications firm, Cabe Wirelles Telecommunications [sic].

The partnership, with 2.6 billion escudos of capital, intends to make connections with more countries shortly, to meet the many needs of the Macao market.

Thus the CTM (Macao Telecommunications Company) will have an internal and external monopoly over telephone communications.

The president of Radio Marconi, Henrique Constantino, who went to Macao specifically for the inauguration of the earth station, told NP [Portuguese News] that Marconi participated in the project out of a desire to 'diversify the firm,' and that 'the positive results can be attributed to the technical and professional expertise of the firm.'

Marconi will use its latest telecommunications antenna, the so-called "Sintra III," to make the connections for Macao.

This antenna is used for Portugal's intercontinental hook-ups, and will now be used for Macao.

Sintra III will, for example, make it possible to have connections between Brazil and Argentina and Hong Kong, using first the underwater cable and then the parabolic antennas via satellite

This is justified because the signal via satellite gets lost because of the long distances. It is very weak, and is accompanied by a great deal of noise. Since Latin America is connected to Portugal via an underwater cable, both methods are used, which strengthens the signal received and virtually eliminates the noise.

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CS0: 5500/2707

SWITZERLAND

BRIEFS

AXE PHONE EXCHANGES FROM ERICSSON--Ericsson [of Sweden] has through its licensee firm Haslar AG received its first order for a computerized telephone exchange in Switzerland, when the Telecommunications Authority there selected the AXE for one on the digital systems which will be employed in the expansion of the country's telecommunications network. This expansion is now underway. The Swiss Telecommunications Authority is soon expected to order additional AXE exchanges. [Text] [Stockholm DAGENS NYHETER in Swedish 16 Jun 84 p 8]

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